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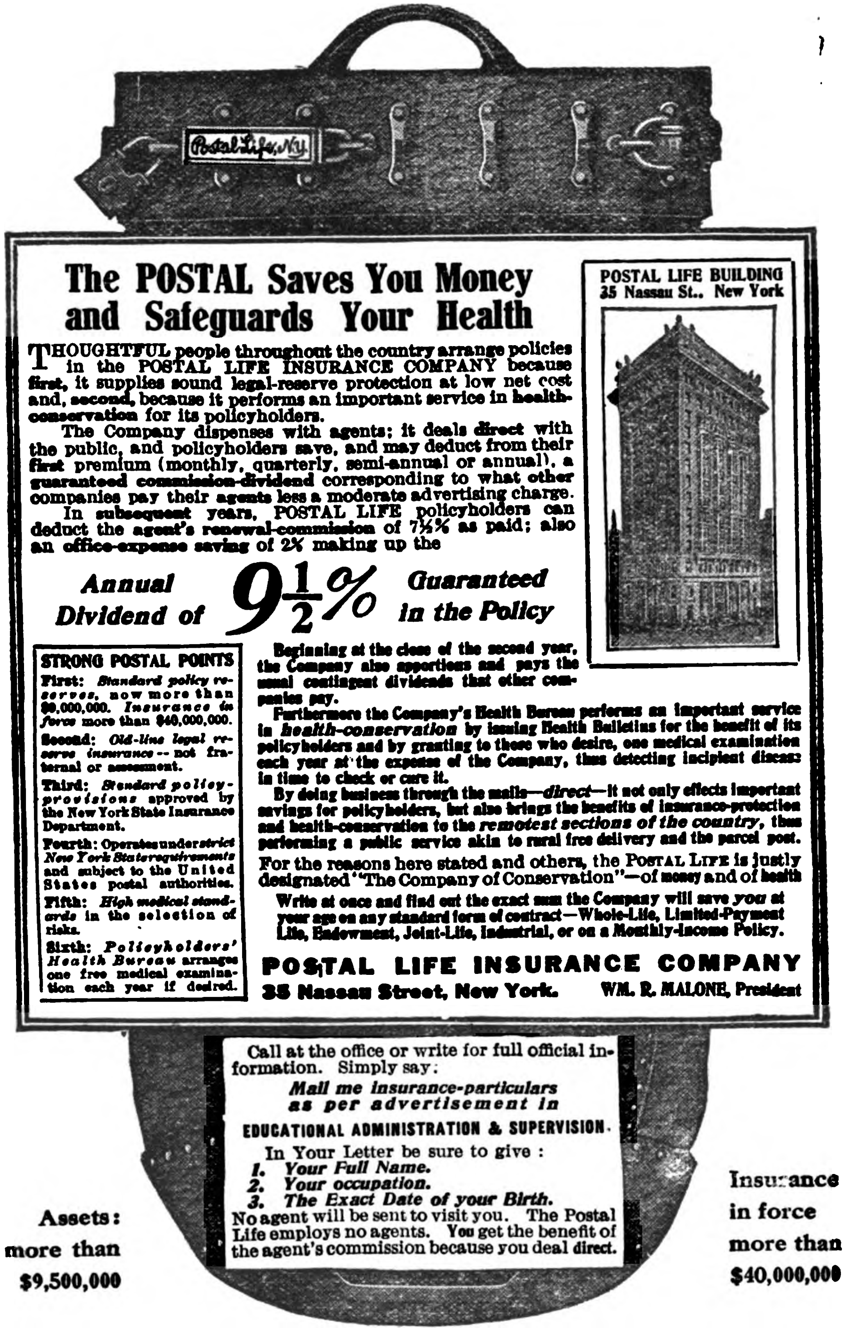
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Alexis F. Lange
University of California

IN 1907 the California Legislature passed an act enabling the high school board of any high school district to add two years to the traditional four-year high school course. In 1910 the Fresno High School was so extended, the first one. By the end of 1914 there were ten such extensions, commonly known as Junior Colleges, with an enrollment of about 800 students. Now there are twelve. Meanwhile, this so-called California Idea has been institutionalized several times over elsewhere. How many Junior Colleges there will be five or ten years hence, in California and other states, will depend less, it seems, on good intentions than on economic ability to carry them out. At any rate, this automatic brake on the Junior College movement may be trusted to prevent violations of the speed limit.

Now, the coupons on through railway tickets usually declare that they are "not good if detached." It is so with the evaluation of the upward extension of the high school. The rise and progress of the Junior College needs to be looked upon as an integral phase of a country-wide movement toward a more adequate state system of education; a twentieth century system, made in America; a system that shall function progressively so as to secure for the nation the greatest efficiency of the greatest number. The evolution of the Junior College is causally connected with the other constituent phases of the whole process of reorganization and adaptive changes. It is inseparable from three of these: (1) the adjustment of the university, in the Germanized sense, to secondary education; (2) the reorganization of secondary education, to make it more effective, for all alike, during the whole period of adolescence; (3) the movement to equalize educational opportunities by the creation of lower and middle systems of vocational training. In the light of this situation the Junior College appears neither as a unique Pacific Coast "sport" nor as somebody's mechanical device, which must be fitted, somehow, into an immutable inherited mechanism. The Junior College is a normal development within a state school system in the making, and this, in turn, is itself being shaped largely by factors and forces that are national and even world-wide in scope. The relative novelty of this development finds its explanation in the fact that in more ways than one the multiform process of educational readjustment has progressed faster and farther in California than elsewhere and is thus presumably fully justified by the privileges and responsibilities of leadership.

To speak first of the University aspect of the Junior College movement, the University of California has been trying, since 1892, to reshape itself around two organizing ideas, two ideas "one and inseparable." One was and is that, for theoretical and practical considerations alike, the university proper should begin in the middle of the inherited four-year college scheme; the second was and is that the work of the first two years is, as a matter of history and fact, all of a piece with secondary education and should, therefore, be relegated as soon and as far as practicable to secondary schools. This trend of thought and preaching and practice resulted *gradatim* in the Junior Certificate, to mark the distinction between university and secondary education, in the policy of placing all professional schools on a basis of not less than two years of non-professional college training, in making the studies of the last two years of the high school and the first two of the college largely interchangeable, and, last not least, in publicly exhibiting the requirements for the Junior Certificate in terms of unified six-year curricula. By 1908 the high school teachers of the State had become generally aware of the fact that what was to be known soon as the Junior College idea had been essentially put into practice at Berkeley and several of them were trying to utilize locally the precept and example of the State University.

But this propaganda would probably not have gathered momentum very fast without President Jordan's dynamic articles and addresses urging the amputation of freshman and sophomore classes to prevent university atrophy and urging the relegation of these classes to the high school. His advocacy of its upward extension made the public "sit up and take notice" and thought and prodded schoolmen into taking the initiative. What had been a Berkeley idea at the beginning had become a California idea, and the spectacle of Berkeley and Stanford climbing the Golden Stairs together, hand in hand, made its appeal with great persuasiveness. Moreover, while Berkeleyans had been in the habit of speaking of six-year high schools, Dr. Jordan gave general currency to the name Junior College, and this proved much more potent in suggestible communities.

This twin-sister university movement, however,—which, by the way, has become fairly national by this time—does not fully account for the Junior College. Two other movements coalesced with it. One had its source in the now dominant conviction on the part of leaders in educational thought that for the great majority of boys and girls undergoing secondary school training the American four-year high school course begins too late and ends too early. The result is a truncated and ineffectual, a non-functioning education, for most high school graduates. A remedial readjustment, it has been seen for some time, must consist in the lengthening, for *all* concerned, of the course for adolescents. In states without complete state school systems, i. e., without state universities, efforts to this end are still generally confined to the *re*-forming of the last two or three years of the elementary school. In California the upward extension of the high school was from the first urged along with the other, in the educational interest of the great mass of high school graduates, who cannot, will not, should not become university students. Such extensions, it was argued, might and should make it possible for the small minority to enter a university, in the narrower sense, at the end of two years; but the controlling educational purpose should be to provide for a reasonably complete education, whether general or vocational. The other movement had its source in the increasingly imperative need of vocational training, first of all for those whose education for general social efficiency is not prolonged beyond the elementary school, and secondly, for those whose general education ends with the four-year high school period and who are not headed for one of the professions, in the restricted sense. With reference to this need, too, as far as the latter class is concerned, an additional two years came to appear desirable and necessary, for "finishing courses" in applied science of one sort or another, according to local means or demand. Mr. Olney, for example, in trying to persuade the school board and people of Fresno, to sanction his Junior College plans, laid great stress on a department of agriculture, on a department of domestic art and science, and on a department of applied political science. Moreover, it seemed clear, from the university point of view, that such departments might render a great service to the universities and to thousands of young people, by diverting these from the university and thus preventing their becoming "misfits" for life.

To the best of my knowledge and belief, such was the genesis of Junior Colleges in California. As contributory factors should be mentioned the long distances from most points in California to the State University and Stanford, the absence of small colleges, which dot the landscape of other states, and the State requirement,—unique thus far in this country,—of a year of graduate study for high school teachers. Of course, the rapid multiplication of Junior Colleges, since the first one was established at Fresno, is partly owing to inter-communal bell-wether-and-sheep relations, combined with the spirit of emulation.

It is of course an inevitable phase of development that as yet not one of the Junior Colleges, produced by the confluence of the three movements I have spoken of, has fully found itself. Growing-pains cannot be escaped; self-direction is naturally not achieved at once. But even now the uncertainty that exists relates rather to matters of organization and method than to fundamental conception and aim. It is coming to be generally understood that the Junior College cannot serve its complex purpose if it makes preparation for the university its primary object. For the great majority of Junior College students courses of instruction and training are to be of a piece with what has preceded; they are to be culminal rather than basal; they are not to result in a "deferred education." The Junior College will function adequately only if its first concern is with those who will go no farther, if it meets local needs efficiently, if it turns many away from the university into vocations for which training has not hitherto been afforded by our school system. Hence it will of necessity be as nearly autonomous as its place in the public school system of the State permits; and its structure will normally exhibit two types of departments,—(a) departments designed to promote general social efficiency, (b) departments designed to furnish complete training for specific—or vocational—efficiency. It is not so certain, however, that this conception and aim will be steadfastly adhered to in practice. The term Junior College implies a Senior College, i. e., preparation for the university; the line of least resistance is to duplicate uncritically freshman and sophomore courses; to think that the universities are doing high school work is not nearly as satisfying as to think that the Junior College is to do university work; the practical value of university approval is so great that there is great willingness on the part of Junior College teachers to perform the clinging vine act. Thus far, fortunately, the State university has not sought to bend the Junior College to its uses. As far as it has acted at all it has acted chiefly as guide, philosopher, and friend. As such it has been groping after a sympathetic understanding of the whole situation, has tried to assist Junior Colleges by emphasizing the need of vocational departments and by warning against sacrificing the educational interests of the local majority, and has refrained, wisely, I think, from even pretending that it was in a position to issue a new set of commandments or a book of revelations. A University bulletin, now in preparation, will, I trust, embody and illustrate this attitude in a helpful way.

One of the problems of organization is that of the relation of the Junior College to the four year high school. Three tendencies are noticeable. One is to separate the Junior College as far as possible from the high school, to create a special faculty, to develop new forms of student activities and social life, to emphasize new points of view, and so on. Another is to differentiate as little as possible, that is, to treat the Junior College strictly as the upper division of a six-year or even eight-year high school. According to a third view, the advantages of both types of organization can be secured and the disadvantages of each avoided by applying the principle of unity in variety. A special faculty, yes, but not one without a share in the work of the grades below the collegiate division; a unified program, yes, but also new attitudes and methods; a distinct college life, but not a separate one, nor a mere imitation of the large university-college, Berkeley, for example. The need of differences between the collegiate and the four-year part of a six-year high school is not created by any other institution. It exists because the students of the college division have normally passed the middle point of adolescence; it exists, further, not because some will go to a university afterwards, but because most of the graduates will presumably not do so. As far as I can see, the actual situation is generally being faced in accordance with this third view, which, I need hardly say, seems to me to do justice to all of the factors entering into the problem.

Another problem is, of course, that of the quality of the teaching staff. It is generally recognized that the work of Junior College grades is beyond the qualifications of the rank and file of high school teachers. The Junior College teacher must not be inferior with respect to advanced scholarship to the university instructor. And there is a general disposition to act on this working-principle. But, of course, such a standard cannot be insisted on at once and everywhere. Meanwhile it seems certain that the universities may safely admit Junior College graduates to full Junior Standing without fear of a lowered standard. According to statistics recently gathered by Recorder Sutton, of the State University, the scholarship average of those coming from Junior Colleges is several fractions higher than the general university average. There are good reasons why this should be so. Hitherto Junior College classes have been small; they have been homogeneous and so have been able to start in on a higher level than is possible for the heterogeneous mass of university freshmen; they have been in charge not of the least experienced but of the most experienced teachers of their respective institutions; they have been less exposed to university side shows; they have come to their university life and work with great expectations, with freshness and enthusiasm. It seems significant in this connection that several good students who completed the first year's work at Berkeley are taking their second year at Los Angeles, on the avowed ground that they have better educational opportunities there. As far, then, as universities are concerned, there need to be no misgivings about standards of scholarship. There is every prospect that within a few years the non-professional work of the Junior Colleges will be in the hands of teachers who, in addition to matured experience in secondary education, have had from one to three years of graduate university study.

This brings us to the problems of affiliation. At Berkeley we retain the term accrediting for the relation between the four-year high school and the University but use the term affiliation to express not only our sense of the right of the Junior Colleges to their own life, liberty and happiness but especially the fact that they are co-ordinate with our own Lower Division, which, of course, we cannot abolish and probably would not if we could, lest the standard of preparation for university work be lowered. Our *modus operandi* has been and is to treat graduates of Junior Colleges as we treat students who have completed two years in other institutions of collegiate grade. Other things being equal, they are given full credit towards graduation. This act is regarded not as a department but as a general university function. Then the student makes his peace with the department or departments in which he desires to take major or university courses. Here no difficulty is experienced as long as the work done in a Junior College appears acceptable as a fair equivalent as to quantity, quality, and purpose for department prerequisites. But if a Junior College department has aimed primarily at general social efficiency while the corresponding university department looks upon its prerequisites as specialized preparation for specific efficiency, more or less professional, then the question arises: Which shall do the adjusting, the university or the Junior College department? One thing is clear. No university department must be allowed to direct or prescribe for the corresponding Junior College department. My own strong conviction is that the Junior College can and should be something better than a conglomerate of departments pursuing a hodge podge of aims. To forestall such a development, the university will have to do more adjusting in its Lower Division than the Junior College should be expected to do. I should add that this process is going on at Berkeley and that in most of our departments no revolutionary changes are involved. Of course this does not apply to Junior College graduates from vocational departments.

If these desire to enter the College of Agriculture or the Colleges of Engineering they cannot expect to escape paying a price for having changed their minds. They must comply with the requirements of professional curricula. Preparation for a vocation is only to a limited extent preparation for more preparation. This view is now pretty well understood and accepted by Junior College principals. Indirectly it will doubtless tend to emphasize the scientific bases of vocational courses in Junior Colleges and to prevent their degenerating into mere drill and skill courses. On the other hand, the Junior Colleges, as an integral part of an autonomous state high school system, will doubtless become an increasingly potent factor in completing the adjustment of the university to the college by basing all professional departments on at least two years of non-technical study and training.

In conclusion, there is nothing in the present situation to shake one's faith in the Junior College movement. 'Tis a long way to Tipperary, but when the Junior Colleges get there they will be found to promote efficiently the public welfare in a number of ways. They will enable the universities to concentrate their efforts more and more on university work proper. They will relieve the State University of a large part of university extension service. They will offer thousands of young people from sixteen to twenty years of age the advantage of being taught and trained in small groups, not far from home. They will make it possible for thousands who are unable to attend a university or college to round out their general education. They will reduce very materially the cost of college and university education. They will provide "finishing" vocational courses in agriculture, in the industries, in commerce, in applied civics, in domestic science, etc. They will constitute educational centres of a high order, whose influence for good will extend in many directions over large areas of the state.

An Extra-Classroom Study of the Decatur High School

J. O. Engleman

Superintendent of Schools, Decatur, Ill.

THE writer has long believed that no school can meet the real needs of its students unless those who administer the school ascertain as accurately as possible the attainments, the aspirations and the limitations of its student body. This belief, plus the inability to find certain desired information elsewhere, led us to formulate and submit the following questionnaire* to the high school of Decatur late in December.—At present we have approximately 1000 students, but at that time, before the influx of the large mid-year class, we had but 850. The questions were submitted the last Friday before the Christmas vacation, at which time several students were ill and many more were at work. Hence there were scarcely 800 present to make reply. In fact, not more than 784 answers were given to any one question.

That the high school has a good grip upon the community is first shown by the fact that 84 students whose fathers are dead are enrolled, while 49 find it possible to remain with us in spite of the loss of a mother.

PUBLIC SCHOOL OFFICE*

DECATUR, ILL., DEC. 18, 1914.

To our High School Students:

It will aid me in my efforts to co-operate with Mr. Newlon, the high school teachers and the Board of Education for the promotion of high school interests if you will answer fully and frankly each of the questions which follow. The anticipated good which will come from a study of these answers when presented to me will depend in large measure upon the hearty co-operation of each student in answering accurately every question. I assure you that nothing but good for you and the school can grow out of the study your answers will enable us to make.

Cordially yours,

J. O. ENGLEMAN,
Supt. of Schools.

C.

1. Your name.................... Age....................
Year in High School.................... Semester....................
2. Number of brothers and sisters you have....................
3. Is your father living?.................... Your mother?....................

4. Occupation of your father..

5. Tell to what organizations in school you belong and after each one give the average amount of time per week in minutes required for attendance upon and preparation for these meetings.

6. What organizations outside of school demand a part of your time? Tell how many minutes per week each one gets on the average.

7. What home duties, if any, do you have?
   (a) on school days
   (b) on Saturdays.

8. Are you working at anything mornings, evenings, or Saturdays for which you are paid?..If so, what work?...
What are your weekly earnings?..

9. What were your gross earnings, if any, during the last summer vacation?........

10. Have you decided upon your life work?....................If so, what is it?..............
Tell what influenced you to make this choice, if you can.

11. Do you expect to take a college course after your high school course is completed?..

12. Do you live on a farm?..................................If you do not, have you ever lived on a farm?...

13. If we could have a strong course in agriculture in the high school next year would you wish to take any part of it?..

14. What, if anything, would you like to see the high school offer that is not now in the course?..

15. What is the average amount of time you spend at home in daily preparation of lessons?..

16. What books not required by any teacher have you read since the opening of school?..
....
What magazines do you regularly read?..
....

17. Do you read the daily papers regularly for foreign and domestic news other than sports and athletics?..

18. Is your general health good?............................Do you have trouble with your eyes?..Do you wear glasses?......................................Is your hearing good?..

19. Place a cross after each of the following that you have had:

typhoid fever
whooping cough
scarlet fever
diphtheria
pneumonia
chicken-pox
measles
small-pox

20. If you remember, tell how many days you were absent from school last semester on account of your own illness..

21. Do you use tobacco in any form?..

22. Do you smoke cigarettes?..

23. What is the average number of times you go to motion picture shows per month?..

24. What is the average number of religious services of some sort that you attend per week?..

25. As you think over the teachers who have been or still are most helpful to you, tell the qualities in them which have made or still make the strongest appeal to you.

The following table shows the size of families from which our high school is made up:

The number having	no	brothers and sisters,	105
" " "	one	brother or sister,	179
" " "	two	brothers and sisters,	169
" " "	three	" " "	119
" " "	four	" " "	80
" " "	five	" " "	46
" " "	six	" " "	39
" " "	seven	" " "	14
" " "	eight	" " "	9
" " "	nine	" " "	8
" " "	ten	" " "	1
		Total	769

From the above it will be observed that considerably more than fifty per cent of the high school enrollment comes from homes in which there are but three children or less. From the table of students in our high school from homes having eight, nine, ten or eleven children, it may be easily inferred that chances for a child's getting a high school education are in inverse ratio to the size of the family to which he belongs.

OCCUPATION OF THE FATHERS

The occupations of the fathers number 102. To our great surprise the dominant calling is farming, 109 students giving that as their fathers' vocation. There is no very close second for this number as the nearest competitor is the merchant, represented by 30 students. Carpenters and engineers number 24 each; rail-road men and salesmen number 27 each; contractors, 23; real estate, 21; and grocers, 20. Traveling salesmen, machinists and ministers fall in the same class, numerically, there being 18 of each. Clerks and insurance men number 15 each, foremen, 12 and laborers, 11. Agents and managers have nine children each in the high school; blacksmiths, teamsters and mail carriers, 8; barbers, conductors, druggists, lawyers and printers, 7; doctors and teachers, 6; and bankers, butchers, mechanics, and painters, 5; brick-masons, book-keepers, car-repairers, dairymen, train-dispatchers, firemen, janitors, manufacturers, motormen, postal employees, and plumbers, seem to be equally represented with 4 children each. The remaining 59 occupations given are represented by one, two or three children each.

The democratic and cosmopolitan character of the high school is suggested by the fact that hotel proprietors', bowling alley keepers', teamsters', hucksters', cooks', and janitors' sons and daughters jostle on terms of perfect equality with the children of landlords, lawyers, bankers and others. It is of interest to note, however, that there is but one miner with a child in the high school, though there are three coal mines within the city limits, employing approximately 500 men. It is evident that ways need to be discovered to arouse in this large factor of the local social group some appreciation of the high school and the service it stands ready to render.

OCCUPATIONS CHOSEN BY STUDENTS

In two or three respects only do the choices of a life work as announced by the students suggest any definite readjustment, additions or modifications of the high school courses of study now administered. 428, or more than 50 per cent of those answering, have not yet made a choice of vocations. It is highly probable that many of those who have chosen will choose again before actually engaging in their life work. Plainly many of them have been more ambitious than wise in their choice, and this in spite of the fact that a large percentage of those students now in the high school have had a series of valuable lessons in vocational guidance in our eighth grade, and some of them another series in the high school.

The range of occupations chosen is only half as wide as that represented by their fathers. The favorite occupation, judged by the number choosing it, is teaching. 67 state their aim to be teachers, though only six are sons and daughters of teachers.

On the other hand, while 109 have fathers who are farmers, only 23 now expect to be farmers; and while 20 fathers are grocers, only one student now looks forward to a life as a grocer. But 19 lawyers are scheduled to take the place of the 7 having children in the high school, and 20 physicians and 17 musicians hope to find places now filled by one-fifth of that number. 13 civil engineers, 11 electrical engineers, 9 bankers, 8 merchants, 7 stenographers, 6 mechanical engineers and 5 dentists, are not too many to expect from this group, though it is safe to predict that the bankers, at least, will not be made up of the very nine who have already chosen banking as a career. Barbers, blacksmiths, carpenters, laborers, machinists, and ministers are well represented among the fathers, but no son of these men indicates a desire to follow in the father's footsteps.

The few students who have chosen to be an actor, aesthetic dancer, cartoonist, milliner, missionary, social service worker, reader or nurse have already exhibited such marked adaptability to these pursuits as to justify the choice made. Whether this can be said of the broker, sailor, army officer, and surgeons is not yet so apparent.

Only one girl was frank enough to announce marriage as her choice of a career, but there are probably a few hundred others who have this choice in the back-ground of their consciousness. Besides, the high school girl may be forgiven if she thinks of marriage in terms more romantic than that of a vocation or even a door to one.

REASONS GIVEN FOR MAKING CHOICE OF LIFE WORK

It is difficult to tabulate the reasons given, but the influence of parents, of older brothers and sisters, or friends and acquaintances is decidedly apparent in a large number of cases. Several students have decided upon a given career because of their belief that they have talent or love for it,—in some cases, both. This is particularly true of those looking forward to musical careers.

One boy expects to be a banker because he is "fairly good in figures." Another expects to be a traveling salesman because "there is big money in it." One girl will be a missionary because of "the need the world has" for this sort of service. Love of biology and a little experimental work make one fellow think he should be a surgeon. "Love of out-door life" has caused another to decide upon civil engineering. Experience in a garage has influenced still another to become a machinist. Those who are to be farmers got their inclination from their farm experiences.

A prospective lawyer states "the need of good lawyers" as his reason for the choice. Another boy has attended trials enough in the Court House to inspire him to become a lawyer.

"Love of books," "love of reading" and opportunity to "keep the mind trained" are given as reasons for choosing the teaching profession.

Very few indicate that they have considered the occupation of their choice from many standpoints, such as possession of talent, extent of the field, training required for success, remuneration, competition, opportunities for advancement, hardships necessitated, etc., though many of these factors may have been considered without being named.

STUDENTS WORKING FOR EARNINGS

Approximately one out of five students, or 162 in all, are found to be working mornings, evenings or Saturdays at some thing for which they are paid amounts ranging from 15c to $15.00 per week. Only one pupil reports earnings of the lower limit, and one the higher. The newspapers, as might be inferred, offer opportunity to the largest number of this group of workers, employing 40, or 25% of the whole number, in part-time service, —as carriers, reporters, etc. 29 find employment as clerks, 9 as delivery hands, 8 in tending furnaces, 5 as nurse maids, 6 take tickets or serve as ushers at motion picture shows. One, two or three find it possible to earn something at each of the following:

band or orchestra
bank clerk
book-keeping
chauffeur
coal agent
collecting
crocheting
dairy work
doing chores
elevator boy
engraving
lumber yards
machine shops
meat market
messenger service
giving music lessons
picking poultry
playing piano at Y. M. C. A.
pressing clothes
shoveling snow
setting pins in bowling alley
show card writing
soda dispensing
soliciting magazine subscriptions
soliciting soap subscriptions
telephone operator
tending poultry
waiting on tables
wrapper in a store

The total weekly earnings by these 160 students is $402.85. For the school year of 38 weeks this gives the very respectable sum of $15,308.30. But better than the financial contribution of these students is the habit of work, of self-reliance, of initiative, of thrift, thus acquired. No other student can ever know the value of a dollar quite so well as the one who has measured it in terms of actual service rendered, and hours spent in earning it. Such knowledge is a most valuable supplementary factor in any one's education. Without it, no education is quite complete.

GROSS EARNINGS LAST VACATION

Four hundred sixty-eight students, most of them girls, worked at nothing for which they were paid, during the summer vacation. About 300 others, or approximately 37% of the whole student body, earned and received amounts ranging from $1.00, the lowest, to $425, the highest earned. The total earnings for the group was $16,097, an average of approximately $50 each.

32	students	report	earnings	from	$1.00	to	$10.00
35	"	"	"	"	12.00	"	20.00
41	"	"	"	"	25.00	"	30.00
19	"	"	"	"	32.00	"	40.00
29	"	"	"	"	44.00	"	50.00
22	"	"	"	"	52.00	"	60.00
12	"	"	"	"	63.00	"	70.00
26	"	"	"	"	72.00	"	80.00
6	"	"	"	"	84.00	"	90.00
18	"	"	"	"	95.00	"	100.00
35	"	"	"	above	100.00		

Others who reported did not remember the amount earned.

Combining this record with that of students' earnings while school is in session, it appears that there is an annual amount of $31,405.00 earned by the high school students in Decatur. While this record can be improved through the co-operation of parents and school, still it is rather encouraging to see "earning and learning" moving thus together towards the realization of an all-round educational ideal.

ORGANIZATIONS WITHIN THE SCHOOL

The high school maintains and encourages a number of student organizations which develop the initiative and leadership of its members, and furnish opportunity for wholesome expression along many lines. The band, orchestra, chorus and glee clubs for music; the Annual, the Decanois, the Observer, Pro Litteres, Rotaro, Forum and Agora for English and debate; basket ball foot-ball, track and hockey for athletics; Nature Club, and Junior Art League for obvious purpose; Boys' Council, Girls' Council, Junior Chamber of Commerce and Athletic Board for Government; but with all these organizations it appears that there are 531 students who belong to none of them. On the other hand, a few students, capable and popular with their fellows, have assumed obligations of membership and leadership in so many organizations that they are burdened unduly. Regular studies must suffer, or the student so loaded must himself suffer from too little rest and recreation.

It would be well if ways could be devised, first, for limiting the number of organizations any student might be permitted to support; and second, perhaps more important, for encouraging each of the 531 students without such connection to identify himself with some extra-class room organization.

HOME STUDY

31 students do no home study, according to their own admission. Their names need to be given to their teachers that the teachers may observe their work and note how it compares with that of other students. At the opposite extreme we find 19 students who claim to study from 5 to 6 hours daily at home. It is just as evident that this bit of information should lead to some faculty action. If these students are truthful they must be too utterly conscientious, to their own physical neglect, or they are too dull to carry the work they are attempting.

98 study fifteen to forty-five minutes per day at home, 282 study from an hour to an hour and a half daily, 238 study from an hour and three quarters to two and one half hours per day, while 99 study three to four and one half hours per day.

DO YOU EXPECT TO GO TO COLLEGE?

Replying to this question, 420 students answered "Yes"; 185, "No"; 7 substituted "Normal" for "College," evidently expecting to prepare at once for teaching; while 166 are undecided, many of them doubtless feeling that the economic status of their homes makes the realization of their wish a doubtful matter.

One acquainted with the statistics dealing with the relation of high school to college-going students would likely discount the figures given above, but it must be remembered that Millikin University is located in Decatur, and as a result going to college, at least for a year or two, is a more reasonable hope for a large percentage of our students than for students in most high schools. The records in the principal's office show that for the past two years, 60% of our high school graduates have actually entered some college. Millikin University gets about one-half of this number, and the University of Illinois the lion's share of the remaining ones, but other colleges and universities belonging to the North Central Association and many of the leading schools of the East are always represented here.

BOOKS VOLUNTARILY READ

The students who have not read a single book during the semester, not required by the teacher, number 269. 114 failed to answer the question calling for the number of books read. It is fair to assume that few, if any, of these had read any books.

Thus it would appear that 383 students or almost half of the number replying, had done no reading of books save that required by their teachers.

But the other 400 students had read a list of books amazing in its variety. 418 different titles appear in the list. Of this number the book most widely read during the semester is Eyes of the World, read by 17 students. Others most popular are

Girl of the Limberlost,	with	15	readers	St. Elmo,	with	9	readers
Polyanna,	"	15	"	Crisis,	"	8	"
Shepherd of the Hills,	"	14	"	Lavender and Old Lace,	"	8	"
Freckles,	"	12	"	Winning of Barbara Worth,	"	8	"
The Virginian,	"	11	"	Little Women,	"	7	"
Inside of the Cup,	"	10	"				

Ben Hur, Bible, Graustark, Rosary, Their Yesterdays, each with 6. Alger Books, Call of the Wild, Laddie, Rebecca of Sunnybrook Farm and Tom Sawyer, each with 5.

332, or nearly 80% of the books in the list had but one reader each. Inasmuch as this is purely voluntary reading, it is of interest to note in what divers and diverse directions the student's fancy takes him when left to gravitate as it pleases.

Perhaps the more significant thing is the list of titles not to be found in the list. Dickens, with his long array of novels, had but 4 voluntary readers; Hawthorne, 2; Scott, 2; Kipling, 1; Bulwer Lytton, 1; Cooper, 2; Victor Hugo, 2; Barrie, 1; Milton, 1; Tennyson, 1; Kingsley, 1; and Shakespeare (mirabile dictu!) 1; Stevenson, none; George Eliot, none.

These observations lend themselves to the support of two opposing claims,—first, that the schools of the day, emphasizing the English classics in their courses, are kicking against the pricks and trying to do the impossible, i. e., educate the child into a love for the type of literature so long offered in the high schools and colleges of the country,—a love that will "carry over" and function in a more extended voluntary reading of these same authors when the opportunity is presented. The other is that we should seize the opportunity which is ours for such a short time, and acquaint the child with what the world has pronounced permanently valuable, knowing that he will get this acquaintance now or never. I confess myself old-fashioned enough to share in this belief.

Magazine Reading

Replying to the question, "What magazines do you regularly read," 101 answer "None." The other 700 students ought to find magazine reading suited to their varied tastes, for they read a total of 178 different publications! It may surprise many readers to know that there is such a formidable list to be found.

Below may be seen a list of 25 of the most popular magazines read by our students, judged by the number of regular readers of each:

The Youth's Companion,	read	by	182	stud.	Ladies' World,	read	by	44	stud.
The Ladies' Home Journal,	“	“	156	“	Literary Digest,	“	“	43	“
Saturday Evening Post,	“	“	93	“	Delineator,	“	“	38	“
Popular Mechanics,	“	“	78	“	Woman's World,	“	“	36	“
Woman's Home Companion,	“	“	72	“	Scientific American,	“	“	31	“
Pictorial Review,	“	“	72	“	Everybody's,	“	“	30	“
Collier's,	“	“	71	“	Puck,	“	“	29	“
Cosmopolitan,	“	“	65	“	Harper's,	“	“	28	“
American Boy,	“	“	59	“	Good Housekeeping,	“	“	28	“
The Outlook,	“	“	59	“	McClure's,	“	“	28	“
Life,	“	“	47	“	Current Opinion,	“	“	27	“
McCall's,	“	“	46	“	World's Work,	“	“	26	“
American Magazine,	“	“	44	“					

At the other end of the scale are 65 magazines with but one reader each, and 21 others with only two readers each. This list of 86 includes many of the magazines most widely read by adults and especially by scholarly adults.

There are prominent educators who believe that the high school can well afford to use magazines freely as a basis for the work in English, even if it means giving less attention to the classics so long prescribed and taught. But whether we would adopt that course or not, it seems that a worth-while work can be done by placing in the hands of the English teachers a list of the 101 students who have not yet learned to read magazines, and by recommending that they introduce them to the various types of reading matter found in the best of the magazines accessible. For a certain number of lessons to be given acquainting students with the character of different magazines—some being scientific, some religious, some political or sociological, some literary in the best sense, some devoted to art, some to current events, some valuable for their book reviews, some for matters of fashion, etc.—is to enable students to leave the high school finally with a reading habit and a discriminating taste that ought to persist. Indeed, something is now being done in this direction, and the teachers of English are already maturing plans for an enlargement of the scope of this work here.

THE DAILY PAPERS

Slightly more than one-fourth of our students do not read the daily papers. Perhaps many of those who do read them, do not do so with care and frequency enough to know the important current events in which the world is interested. But the knowledge that there are more than 200 students in a high school the size of Decatur's, not reading the daily papers, is evidence that we need to stress the importance of such reading, and do something now left undone, to establish such a habit in the lives of these students.

We are wholly justified, I think, in giving the place we give to Greek and Roman, Mediaeval, Modern European and Early American history, but to do this and to permit students to close their eyes to history in the making, when Congress is in session, when most of Europe is at war, and the rest of it compelled to preserve an armed neutrality, when treaties are broken, other earlier treaties and alliances first written in ink are being written anew in blood, when ships are being sunk daily, when waters troubled in 490 B. C. and in 1453 A. D. are again disturbed, when even the U. S. is feeling the effects of the war in countless ways, is to miss one of our greatest opportunities to vitalize both modern and mediaeval history.

It is good to know that nearly 600 students in the high school are keeping in touch with current events. What we now want is to have the other 200 equally interested.

AGRICULTURE JUSTIFIED IN OUR COURSE

Without knowledge of the full extent of our rural constituency, but knowing that Decatur is in the midst of one of the richest corn belts of the world, we recommended the introduction of a good course in agriculture into the high school. This recommendation met with some vigorous opposition by those who saw in it a slight increase in taxes, and who therefore opposed it upon the alleged grounds that Decatur could have no interest in and no need of such a course, because "ours is a city high school." This objection prompted me to address the following questions to the students:

Do you live on a farm?

If not, did you ever live on a farm?

If we could have a strong course in agriculture next year, would you wish to take any part of it?

To the first of these questions 85 answered "Yes"; to the second, 291 replied in the affirmative; and to the third, 155 made similar reply. It may be recalled that 109 students stated that their fathers are now farmers. The apparent discrepancy is explained by saying that many men are farmers yet live in Decatur, tenants doing most of the work. The above information, plus the added discovery that 23 students have decided to farm as a life work, justified fully the recommendation in the eyes of both the Board of Education and the community, and effectually silenced the opposition. A four-year course in agriculture under a well-trained director, beginning next September,* will therefore be one of the first fruits of the survey here described.

OTHER SUBJECTS DESIRED BY THE STUDENTS

In an effort to find whether any considerable number of students without the bias that might come from discussion of the matter, really want anything not now in the high school course, we asked this question:

"What, if anything, would you like to see the high school offer that is not now in the course?"

391 answers expressed satisfaction with the course as it is, suggesting no additions. A trifle more than half, however, accepted the invitation and made suggestions calling for 94 additional subjects or more extended treatment of subjects already taught. In most cases there are so few students indicating a desire for the subject suggested as to make the suggestion valueless from an administrative point of view. For example, for architecture, construction of autos, insurance writing, printing, salesmanship, stenotype and telegraphy there is one request each. But 6 requests for astronomy, 11 for electrical engineering, 16 for pottery, 16 for Spanish, and 74 for French, are more provocative of thought, regardless of the outcome.

HEALTH SIGNS

Answering the question, "Is your general health good?", 40 say "No."

212 have trouble with their eyes, more than a fourth of the whole school, but only 94, 12%, wear glasses.

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*Such a course was introduced in September, 1915.

30	state that their hearing is not good	98	students have had diphtheria
56	students have had typhoid fever	489	" " " chicken pox
169	" " " scarlet fever	601	" " " whooping-cough
110	" " " pneumonia	708	" " " measles
55	" " " small-pox	Only 16	" " " none of the above

This table suggests that a child's chances of escaping the so-called children's diseases—chicken-pox, whooping cough and measles, especially measles, are very slight in Decatur. An editorial in a Decatur paper states that the pupils must have "mistaken head-aches for some of these diseases," the numbers are so large. Figures for comparative purposes are not easy to find, so I cannot tell whether this is a worse showing than most schools of similar size would make or not.

The number of typhoid fever, scarlet fever and diphtheria cases is large enough to give the physicians and health department something to think about, as well as the schools. It is well-known that Decatur needs a more efficient health department, with a physician and sanitary expert in charge, a condition not now obtaining. Citizens who have come to the city the past two years have commonly remarked about the laxity of quarantine regulations found here, as compared with those in effect elsewhere. This may account for a large number of communicable and infectious diseases which the students report.

The city's experience with scarlet fever last winter, resulting in the closing of the schools for 3½ weeks after the attendance had been decreased more than 50% through spread of the disease and parental fear of its being contracted in homes still free from it, has aroused the citizens until a reorganization of the health department seems assured.

USE OF TOBACCO

48 boys admit the use of tobacco and 37 admit the use of cigarettes. The percentage is small, indeed, 8 or 10%; but 56 ignored the question which doubtless means that there are many more disciples of the weed than our figures show. Here again is room for some comparison of the scholastic records of those who use tobacco with the records of those who do not use it.

Similar comparisons made in many schools enable us to predict the result of such a study here in advance. Should the high school teachers make a study of the grades of those who use tobacco and find what is usually found under similar circumstances, they would then have in their possession one of the most effective means for discouraging the damaging practice indulged in by these boys.

AVERAGE NUMBER OF MOTION PICTURE SHOWS PER MONTH

To the question, What is the average number of times you go to motion picture shows monthly? only 731 students made reply. It is a reasonable inference that the 51 who refused or failed to answer the question are among the most frequent patrons of these shows. If we had replies from them, doubtless our average would be different.

78 students do not go to motion picture shows
77 " average 1 show per month
58 " " 2 shows " "
54 " " 3 " " "
120 " " 4 " " "
66 " " 5 " " "
33 " " 6 " " "
10 " " 7 " " "
62 " " 8 " " "
5 " " 9 " " "
36 " " 10 " " "
3 " " 11 " " "

39 students average 12 shows per month
21 " " 15 " " "
6 " " 16 " " "
1 " " 18 " " "
17 " " 20 " " "
1 " " 21 " " "
1 " " 24 " " "
5 " " 25 " " "
1 " " 26 " " "
1 " " 28 " " "
5 " " 30 " " "
2 others go nearly every day

According to these confessions, there is a total of some 4,075 admissions into the motion picture shows from the high school every month, or an average of a trifle more than 5 per month for every student in the school. On the whole this is a smaller attendance than I anticipated. Certainly the popular supposition is that motion pictures have a better grip upon our students than these figures warrant us in believing.

On the other hand, it appears that 145 students go to more than 8 of these shows every month—more, that is, than two per week. Wholly aside from the question of the moral and intellectual values of the plays is the question whether so much time can be given for this sort of dissipation and amusement without detriment to the student's standing in his school studies. Certainly it will be worth the high school faculty's while to see whether there is any marked relation between failures or even low grades on the one hand and excessive motion picture going on the other.

RELIGIOUS SERVICES ATTENDED

To the question, What is the average number of religious services of some sort that you attend weekly? replies were received as follows:

No. of Services	Students
0	28
1	320
2	249
3	88
4	33
5	16
6	6
7	2
8	1
10	1
15	1

A glance at the table shows a healthful condition from the standpoint of the church in its relation to these young people. 657 or 83% of them attend one, two or three religious services every week. This is as it should be.

The 28 who attend no such service ought to be looked up. The percentage is small but such a number ought not be lost to the church at this age without the school using its influence to direct them into the care of some religious body. The 38 who failed to answer the question doubtless include a number more who have relatively slight interest in the influence of the church. They, too, need to be made the object of some inquiry.

LIKABLE QUALITIES IN TEACHERS

When Burns wrote

> "O wad some power the giftie gie us
> To see oursel's as ithers see us"

he voiced a universal need. But while the need is universal, perhaps as teachers we stand in special need of just such power, and especially the power to see ourselves as our pupils see us. Such a vision would not always be flattering to us, but it might be wholesome.

About 550 of our students replied to the invitation—"As you think over the teachers who have been or still are most helpful to you, tell the qualities in them which make the strongest appeal to you."

Almost every conceivable characteristic has made its appeal to some student. Even obvious weaknesses, as measured by adult standards, have in a few cases been the conspicuously pleasing qualities, though this is rare. For example, one student was most favorably impressed with the fact that one of his teachers smokes. Another candidly admits that "one does dislike studying under a paragon of all virtues." But these are exceptions. Nearly all students are discriminating enough to recognize good qualities as such, but their sense of relative values is very different from that of many teachers. Scholarship does not awe, and pedagogical practices are not unduly impressive. 18 students only name the teacher's knowledge of his subject as the impressive quality. 2 others stress the fact that their teachers were "very learned."

On the other hand, 130 specify "willingness to help me," as the striking quality; "Patience" was named 85 times; "kindness," 80 times; clearness, 35; sense of humor, 32; understanding of students, 24; firmness, 21; impartiality, 24; cheerfulness, 19 and pleasantness, 19; ability to make work interesting, 21; sincerity, 14; sympathy, 16. In other words, students like teachers for exactly the same reason that men and women are liked by groups of their fellows out in the world in other relations.

No amount of learning and no amount of "professional training," though each is a *sine qua non*, can atone for a lack of the human touch, and the virtues which endear people to their associates in ordinary walks of life. The most scholarly teachers, employing the most skillful methods, measured by coldly intellectual standards, must largely fail to get desired results if they fail to bring or beget the right emotional atmosphere in the school room. Emotional warmth is just as essential to the growth of ideas as physical warmth is to growth of plants. Frost is as much to be avoided in the school room as in the garden.

Dignity, culture, correctness of speech, modesty, politeness, beauty, thoroughness, exactness, quietness,—these are other qualities named a few times, but where possessed, even in large degree, they have not impressed the rank and file of students as they have adults generally.

Finally, it may be said that teachers should strive no less for scholarship and skill in the technique of classroom instruction, even if students do tend to minimize the importance of these qualifications; but the large place pupils give in their esteem to the more personal and social qualities of teachers is evidence that we miss our opportunity to be of largest service unless we adjust ourselves to this fact, and become attractive rather than repellent in our relations with our students.

Variability of Judgments in Equating Values in Grading

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THE variability manifested by a number of different markers in grading the same examination papers has been studied within the past few years by several investigators, notably by Dr. Starch and Dr. Elliott.[1] In every case a considerable degree of variability has been discovered and that variability has been found to be characteristic not only among different markers of the same paper but also in the case of the same marker grading the same paper after an interval. The evidence is abundant that wide ranges of differences are to be expected in grading the same examination paper and hence that a large probable error is possible in gradings as they are commonly determined.

Dr. Starch has suggested as the major factors involved in causing the large differences in grading: "(1) Differences among the standards of different schools, (2) Differences among the standards of different teachers, (3) Differences in the relative values placed by different teachers upon various elements in the paper, and (4) Differences due to pure inability to distinguish between closely allied degrees of merit."[2] The present article has to do with the third factor and in part with the second factor suggested by Dr. Starch. It involves an investigation of the ability of the teacher, marker, or maker of the examination paper to determine the relative difficulty or importance or both of the various questions or parts of the paper and hence his ability to assign relative values. Two elements are obviously involved in assigning grades to answers made by pupils, one the problem of assigning the relative value to be attached to different parts of the paper, the other the problem of determining how closely the examinee's answers approach the standards determined. The grade to be assigned is affected by both of these elements. Differences in the values assigned to the various parts of an examination ~~is~~ are undoubtedly one factor causing the variability found by all investigators.

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[1] Starch, D., and Elliott, E. C., Reliability of the Grading of High School Work in English School Review, XX, 442–57; Idem, Reliability of Grading Work in Mathematics, ibid., XXI, 254–59; Idem, Reliability of Grading Work in History, ibid., XXI, 676–81; Starch, D., Reliability and Distribution of Grades, Science, XXXVIII, 630–36.

[2] Starch, D., Reliability and Distribution of Grades, Science, XXXVIII, p. 630.

Two methods of assigning values to the various parts of an examination are common: (1) The examiner attempts to present a number of questions all of which are of approximately the same degree of value or difficulty and then attaches to each the same value, usually in terms of equal fractions of one hundred per cent or grades which ultimately are referred to the per cent basis; (2) The examiner frames the questions which he wishes to ask and then evaluates them by weighting each question according to his conception of its relative importance or difficulty. It is obvious that in either case the judgment is empirical and more or less arbitrary and therefore represents a variable factor. This is not avoided by allowing options or by counting certain questions as 'pass' questions and others as 'honor' questions.

In an attempt to secure data which might shed some light on the ability of teachers of mathematics to determine the relative value to be attached to the various parts of an examination paper the writer sent a set of ten questions in Plane Geometry to about three hundred head teachers of mathematics in the high schools of the Middle States and New England. Since the suitability of the examination as a test of the pupils ability was not involved the questions are not reproduced here. All that was desired was that the teachers should express their judgments as to the *relative* values to be assigned to the questions. The questions were taken from an examination set by the College Entrance Examination Board with the addition of a very simple question added to bring out more clearly differences in values. Each teacher was requested to assign to each question the relative number of points to be allowed for each correct answer on the supposition that the total points should equal one hundred. One hundred twenty two replies were received of which twenty indicated that the writers would assign equal value (10%) to each question. The variation of the other 102 judgments may be seen from Table I:

TABLE I

VALUE (%) ASSIGNED	NUMBER OF JUDGES ASSIGNING X VALUE TO EACH QUESTION											
	1	2	3	4	5	6	7	8	9	10	Total	%
0						1					1	0.1
1					1						1	0.1
2		1						1	1	1	4	0.4
3	1		1								2	0.2
4		3						1		1	5	0.5
5	14	15	7	1	16	2	8	6	8	19	96	8.8
6	4	7	1	1	6		2	1		13	35	3.4
7	6	3	1	3	6	4	6	2	4	8	43	4.2
8	23	26	15	14	29	6	14	8	7	18	160	15.7
8.5		1					1	1	1		4	0.4
9	3	5	5	4	4		3	3	2	2	31	3.0
10	34	30	44	24	27	34	31	24	16	18	282	27.6
11	2	3	4	6	1	3	2	2	4	1	28	2.8
11.5						1	1	1	1		4	0.4
12	8	6	16	23	6	21	16	24	21	10	151	14.8
12.5		1				1	2	2	2		8	0.8
13	3		2	2	2	3	5	2	2	1	22	2.2
14	1			1		3	1	1	1		8	0.8
15	3	1	5	16	4	18	9	21	26	7	110	10.9
16				2		2		1	3	1	9	0.9
17						1					1	0.1
18			1	1			1	1	2	1	7	0.7
19												0.0
20				3		2			1	1	7	0.7
25				1							1	0.1
Range	12	13	15	20	14	20	13	16	18	18	25	
Average	8.9	8.3	10.0	11.1	8.5	11.5	10.1	11.1	11.6	8.6	10.0	
A. D. (Av.)	2.0	1.9	1.6	2.5	2.0	2.3	2.3	2.5	2.8	2.8	2.4	
Median	9.0	7.5	9.5	10.7	7.8	11.5	9.6	11.1	11.3	7.6		
Med. Dev. (M.)	.8	1.8	.6	1.2	1.3	1.2	1.6	1.1	2.8	2.0		

The arbitrary and empirical nature of the judgments can be seen from the distributions which do not approximate the normal, from the extreme ranges which in every case exceed and are in some cases nearly double the amount of the central tendency, from the variability which in each case (as measured by the A. D.) is nearly one quarter of the amount of the central tendency, and from the fact that most of the judgments cluster around certain conventional and easily combined grades as five, eight, ten, twelve, or fifteen. It was not intended in the study to determine the actual central tendency values which should be attached to the various questions and it is improbable that any conclusions as to such values should be drawn from the results obtained. The sole purpose of the study was to determine the variability of the judgments made by experienced teachers and the arbitrary character of those judgments. This is clear from the results. It is probably unnecessary to call attention to the fact that the variability is not cumulative and that the deviation in the case of any one part of the paper is partially (and may be entirely) compensated for by an opposite deviation in the case of another part of the paper. In other words the amount of variability for the entire marking cannot be determined by adding together the amounts of variability for each question.

II.

In view of the apparently arbitrary character of the assignment of values to various parts of a paper a second investigation was made in the attempt to determine how closely the relative values assigned by the examiner to different questions on an examination paper would conform to the values which might be assigned on the basis of the relative difficulty of the questions as measured by the ability of a fairly large group of examinees to answer the various questions set. Accordingly the ten questions on which the preceding study was based were given in the form of an examination to a class of about forty high school pupils who had completed the course in plane geometry about four months before the examination was given. As would be expected from the character of the questions asked (which were in part rather difficult) and from the fact that the class had completed the study of the subject some months before the examination the results were rather poor. However, the relative difficulty of the various questions was clearly indicated as far as that class was concerned. The total earned credits for each question were as follows:[1]

Question number..........	1	2	3	4	5	6	7	8	9	10	Total
Total credits..............	187	191	135	102	260	8	20	15	0	298	1216

From these figures it is obvious that for the group examined and under the conditions of the examination there are great differences in the relative difficulty of the various problems as measured by the actual ability of the pupils to solve them. However, the conditions of the first investigation were unsatisfactory in many ways and hence a second was attempted.

In June, 1914, an examination paper in algebra consisting of ten questions was set for candidates for state scholarships at

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[1] In passing it might be well to note that questions 1, 2, 3, 4, 5, 10 were "theorems" while questions 6, 7, 8, 9 were "originals."

Rutgers College. One hundred seventeen candidates for entrance were examined. Their papers were marked on the assumption that each question correctly answered should be assigned ten points on the percentile scale. Each question on each paper was separately marked. By adding together the grades received by the examinees for each question we may get a rough measure of the relative ability of the group with reference to each question and a measure of the relative difficulty of each question for the group of students measured and under the conditions of the measurement. The results were as follows:

Question number	1	2	3	4	5	6	7	8	9	10	Total
Total credits	1032	995	957	530	679	382	75	353	490	804	6297

In other words questions 1 and 2 were roughly twice as easy as questions 4 and 9 and they were fifteen or sixteen times as easy as question 7. Yet on the basis of ten points to be assigned to each question a correct answer to question number 1 would entitle the student to the same credit as a correct answer to question number 4, 7, or 9. This is manifestly unfair and arbitrary.

The relative difficulty of the different questions in the examination is readily expressed in terms of per cents giving the following results for the above figures accordingly as we consider that more credits or less credits should be assigned to the easier questions:

Question number	1	2	3	4	5	6	7	8	9	10	Total
First method	16.4	15.8	15.2	8.4	10.8	6.1	1.2	5.6	7.8	12.8	100.1
Second method	2.6	3.1	4.0	11.9	9.1	14.6	20.4	15.2	12.6	6.6	100.1

It is, of course, clear that those values are valid for the special group of students examined only and under the conditions of the examination. It is to be remembered also that we are here concerned with the relative difficulty involved in answering each question without reference to the values to be assigned on the basis of the relative importance of the different questions asked.

Variability is also found among examiners in their theories concerning the values to be assigned to relatively difficult and relatively easy questions. In response to the question "Should an especially difficult question be counted more or less than the average question?" on the questionnaire referred to in the first part of this article, the answers were distributed as follows: more, 67; less, 21; neither, 16; "It depends," 12; no answer, 10.

It is obvious from the figures given above that the grading to be given will depend on the method adopted. It may be suggested that an especially difficult question or an especially easy question should not be asked on an examination. The answer to that suggestion is found in the fact that a *priori* judgment is not efficacious in avoiding questions which differ greatly in their relative difficulty as measured by the answers given by a large and representative group of students.

The average teacher, if he will take the trouble to measure the relative difficulty of the questions he asks on an examination paper in terms of the results attained by the entire group examined, will be surprised to discover that it is not an easy task to determine in advance of the examination the relative difficulty of the different questions asked. For the purpose of such self-examination the following method is suggested. Assume for each question on the examination a value of one hundred per cent divided by the number of questions asked. Mark the answer to each question on each examinee. (Add [redacted]) the credits given to the examinees for all answers. To determine the relative per cent to be assigned to each question divide the total credits for each question separately by the total credits for all examinees for all questions. This method will give values on the theory that the more difficult questions should be assigned the lower values. To secure values based on the opposite theory divide the total possible credits for all examinees for all questions minus the total credits assigned, by the total credits possible for all examinees for each question separately minus the total credits assigned for all examinees for those questions.

Aside from the suggested method of self-examination and possible revaluation of grades this study presents one more evidence of the unsatisfactory nature of our present system of grading and a possible explanation of a part of the variability found in grading examination papers.

A Scholarship Honor System in High School

F. M. Giles

Principal De Kalb Township High School, Illinois

FOR some time past the high school has been confronted with the problem, "In what way can we give social recognition to good scholarship in secondary schools?" It is quite evident that too many of our students are satisfied with low standards and that to offset this the school ought to put a premium on good scholarship. If some plan could be devised whereby students of excellent ability could receive recognition for their work, it undoubtedly would stimulate a greater interest in scholarship. The present paper presents the plan which has been in use in the De Kalb Township High School for several years, whereby the school endeavors to give to students of excellent ability both social recognition and a material reward in the way of extra credit.

From the study of the distribution of ability in individuals and a comparison with the distribution of grades among the students in high school and college, we know that it is possible to classify students in fairly definite groups according to ability in school subjects. We know, for instance, that in general the upper quarter of the class in a given subject represents students of good ability, the medium fifty percent, the students of average ability, and the lower quarter of the class, the students of poor ability. Could some plan be devised whereby the students in this upper quarter of the class could receive adequate recognition, we should have the elements of an honor system. Such a plan would also indicate in some degree the students who are likely to profit by further education. Our plan in De Kalb, as announced in the school catalogue is as follows:

HONOR SYSTEM.—In order to stimulate scholarship and to give some recognition of intellectual attainment in the school, the following honor system has been established. It is to be noted that it is not an exclusive or a competitive system, awarded to one or two students, but the attainment of honors is open to all who attain a given grade. Thus ability and application are the only qualifications for scholarship honors.

1. Honors for class work are of two grades: honor and high honor.

2. Students receiving high honors for the semester are those who get twenty honor points.

3. Students receiving honors for the semester are those who get eight honor points.

4. Honor points will be awarded as follows, for semester grades in five hour prepared studies:

E+	9	G+	3	P+	—3
E	8	G	2	P	—4
E—	7	G—	1	P—	—5
VG+	6	F+	0	Fl.	Ineligible for honors
VG	5	F	—1		
VG—	4	F—	—2		

5. In counting honor points, prepared studies carried less than five days per week shall receive points pro rata to the number of days carried. For example, four days, four-fifths of the honor points; three days, three-fifths of the honor points, etc.

6. Studies not requiring home preparation shall receive one-half the honor points of studies requiring preparation given the same number of hours. These studies are music, drawing, cooking, sewing, manual training, stenography, pottery, millinery.

7. The deportment of honor students must be "A" or "B."

8. A list of the students who maintain the honor grades for the month shall be posted each month, and they shall be considered the honor students for the month, and as candidates for the semester honors.

9. Students averaging twenty honor points for the four years shall have the fact that they have graduated with high honor indicated on their diploma. Students averaging eight honor points shall have the fact that they graduated with honor indicated on their diploma.

10. Students receiving high honors for the four years shall receive one additional unit credit, that is, shall be allowed to graduate with fifteen units. Students receiving honors for the four years shall be allowed one-half unit credit. A student receiving high honors or honors for any given year, shall receive one-fourth of the above extra credits.

It will be noted that the plan allows a small amount of extra credit to the student carrying his work with high grades. This has proven a valuable feature of the plan. It has given the student some definite reward for his good work.

There is a growing feeling among the high schools and colleges that good scholarship should receive material recognition, and it will undoubtedly come to pass in the next few years that students with a high grade will be able to finish high school in three years. The colleges will accept such students on the same basis as those who have spent four years in high school but have lower grades. The University of Chicago is at work upon some such plan at present.

This plan has worked very satisfactorily in De Kalb during the five years it has been in operation. Some figures may be of interest. In June 1911, about the time the plan was introduced, the following students received the honor grades:

HIGH HONOR

					Total
Boys......	Seniors—1	Juniors— 4	Sophomores—0	Freshmen— 2	7
Girls......	" 1	" 5	" 1	" 8	15

HONOR

Boys......	Seniors—3	Juniors— 1	Sophomores—2	Freshmen— 3	9
Girls......	" 6	" 10	" 6	" 12	34

In January 1915 the number of students receiving honors was as follows:

HIGH HONOR

					Total
Boys.....	Seniors— 3	Juniors— 0	Sophomores—1	Freshmen— 4	8
Girls.....	" 6	" 10	" 9	" 5	30

HONOR

Boys.....	Seniors— 1	Juniors— 3	Sophomores—4	Freshmen—15	23
Girls.....	" 14	" 12	" 8	" 15	49

There were 320 students enrolled in 1911 and 364 in 1915. On a percentage basis twenty-one percent received either honor or high honor in 1911 and thirty percent in 1915. This gain we attribute in some measure to the interest in scholarship cultivated by the honor system.

An interesting fact has come out in regard to the ages of the honor students.

AVERAGE AGE

1912—Class Average	18 yrs.	4	mos.
Average honor students	17 "	10	"
Average lower third of class	18 "	6½	"
1913—Class Average	18 yrs.	2	mos.
Average honor students	18 "	2	"
Average lower third of class	18 "	11	"
1914—Class Average	18 yrs.	1	mo.
Average honor students	17 "	11	mos.
Average lower third of class	18 "	10	"
1915—Class Average	18 yrs.	3	mos.
Average honor students	17 "	5	"
Average lower third of class	18 "	10	"

A comparison of the average age of those receiving honors with the average age of the lower third of the class shows that the honor students are younger than the poorer students.

There is a great deal of interest among the students in making the honor points and the community itself is interested in the plan. The names of the students have been published in the local paper and in this way considerable community interest has been aroused.

If now the colleges would recognize that students graduating with high honors would be entitled to say one quarter extra credit, it undoubtedly would stimulate a greater interest in scholarship records. At the same time it would aid the good student to get into college earlier, and it is believed it would not in any way lower the standard of work done in college Freshman classes. We know from the investigation of Dearborn that the student in general maintains the same average standing in college that he did in high school. The students who are of high rank in high school, in most cases, would be of high rank in college.

Further, if some plan of this sort would be adopted among the larger schools of the state it is possible that an honor system comparable to Phi Beta Kappa in college might be worked out. Such a state wide recognition of scholarship would undoubtedly tend to stimulate further interest in good work in high school.

DISCUSSIONS AND COMMUNICATIONS

THE ENROLLMENT OF PUPILS IN THE HIGH SCHOOL

G. J. Koons

Township High School, Murphysboro, Illinois

THE enrollment of pupils in the high school is a problem deserving the careful consideration of those in charge of high school administration. In the small high schools where only a single curriculum is prescribed for all pupils, enrollment is a comparatively simple matter. However, in the larger high schools as the number of elective courses and curricula increases the problem becomes more and more difficult. Much depends on the pupil beginning his high school work with the selection of studies best adapted to his individual needs. The report of the Springfield, Illinois, Survey criticises the failure of the Springfield High School to provide systematically for advising with the pupils in regard to the proper election of courses. When the pupil enrolls is the best time to begin advising him in regard to the courses best suited to his needs.

Three aims are worthy of consideration in determining the method of procedure in enrolling high school pupils:

1. To secure from the pupil data needed for the high school records and reports.
2. To secure data that will be helpful in giving the pupil advice as to his future school work and the selection of a vocation.
3. To secure by the parent and the pupil a careful consideration of the courses offered and a judicious selection of those best adapted to the individual needs of the pupil.

The first step in enrollment for the pupil is to secure and fill out a registration blank. New pupils can secure this blank only on presenting satisfactory evidence that they are entitled to admission to the high school. This blank should ask for facts needed for the high school records and reports and that may be useful in directing the pupils' future school work and for vocational guidance. The form of the blank should be adapted to meet local conditions and requirements.

The following is the form now in use in the Murphysboro Township High School:

REGISTRATION BLANK

MURPHYSBORO TOWNSHIP HIGH SCHOOL

Murphysboro, Illinois

Date of enrollment..............................191......

Name in full..

Address (give street number)..

Telephone number..........................Date of birth......................Age............

Place of birth..

Parent or guardian's name...

Address...

Occupation of parent..

In what township does parent or guardian reside?............................

Place of birth of father...........................Place of birth of mother..................

What school did you attend last year?.......................................

If not in school last year, what school did you last attend?................

....In what year?..........................

For what business or profession are you preparing?..........................

Do you expect to complete a high school course?.............................

Do you expect to attend college?............................If so, what college?..............

What subjects that you have studied do you like best?.......................

....

What subjects do you dislike?...

Do you intend to take a general, college preparatory, commercial, agriculture, domestic science or teachers' curriculum in the high school?..........................

....

A second step is the securing and filling out of the study list card. The form in use in the Murphysboro Township High School is as follows:

STUDY LIST

MURPHYSBORO TOWNSHIP HIGH SCHOOL

Name..

Date..

Time	Credit	Course	Teacher

Approved..Parent or Guardian.

In filling out this card the pupil is expected to consult with the teachers, his parents and the principal or some adviser designated by the principal for that purpose. Much depends upon the right selection of courses by the pupil, consequently he should have at this time the assistance of those best able to advise him. The teachers are expected to acquaint themselves with the daily program of classes and the nature of different courses offered in order that they may wisely direct the pupil in making his choice of subjects. The entry for each subject should be signed by the teacher in charge of that subject. After the pupil has tentatively completed his list of subjects he should submit it to his parent or guardian for approval and signature. In this way the parent is brought into touch with the school at the outset in a helpful way.

When the study list is sent to the parent for approval is a good time to send an explanatory note or letter bringing to the parent's attention any facts concerning the work which he ought to consider before finally giving approval. Principal M. H. Stuart of the Manual Training High School, Indianapolis, Indiana, uses a form that might well be adapted to suit local conditions in other high schools and sent to the parent when the pupils study list is referred to him for his approval. The form* is as follows:

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* See report of Proceedings of High School Conference published as University of Illinois School of Education Bulletin No. 13, page 44.

....................................asks permission to omit....................................
in order to take..

Permission to do this implies an understanding that the pupil is preparing for..and that other subjects leading to the same end are to be taken later in the course.

This change may prove a handicap to the pupil should he wish to attend college, since the subject omitted is usually required for college entrance. By signing below, the parent signifies that he realizes the above condition, but requests that the desired permission be granted.

....................................Date ....Parent.

The study list should finally be approved by the principal or by some one officially named by him to act as final adviser. His experience and knowledge of conditions may enable him to make suggestions that have been overlooked by those previously advising and which may still better adapt the high school work to the pupil's individual needs.

The method of procedure described is rather long and tedious but if it will in any way result in a better adjustment of the high school work to the individual pupil and a careful consideration and judicious selection by him of the subjects best suited to his needs, the time required is well spent.

THE "CREDIT FOR QUALITY" CONTROVERSY

Jesse H. Newlon
Decatur, Illinois

HIGH School Principals have read with interest Professor Ruediger's criticism (in the School Review for September 1915) of the "credit for quality" plan. Since the high school with which I am connected has for four years been giving "credit for quality" I am particularly interested in this controversy.

Four objections to this practice are raised, only one of which seems to be a real objection.

1. Professor Ruediger asks, "why stop at D with 70 per cent." "Why not go to 50, 60, 40 and down to 10 or 1 per cent." For the simple reason that no such scale of marking is actually used in any school. The custom is to mark on a scale of from 65 or 70 to 95 or 100.

Since it is not convenient to mark on a scale of a hundred points, or even of ten points, it is obviously not convenient to make even ten distinctions in the amount of credit given.

Prof. Ruediger says we cannot assume that the pupil receiving the highest marks reads more widely than the other, that the student who completes physics with a mark of A has a wider knowledge of the subject than the student receiving B. This will depend upon the method of teaching and of marking work. Would Professor Ruediger have us believe that the A student actually knows less than the B student? If this is true there is something radically wrong with our examination systems and our methods of judging work. It ought to be impossible for the student who is a mere slave of the text to make the highest marks.

2. The contention that we are already giving credit for quality in the honor that goes with high marks and in awarding scholastic distinctions to students with the highest averages in scholarship is entirely beside the question.

The question is, Shall we recognize, in the giving of credit, the fact that the A student has traveled considerably farther along the road of learning in one semester of history than the B student, or, shall we say that they have each traveled an equal distance? If the B student knows more history than the A student it is a serious reflection on the teacher's method of marking.

3. It is further argued that this practice introduces "a vicious artificial incentive" shifting attention from the work to the credit, and engendering "faulty methods of study" and "unwise selection of courses," and bringing unwholesome pressure upon the faculty. We have observed none of these disadvantages in our experience with the scheme. Here it is again a problem of the proper pedagogical methods. If right methods of teaching are employed the student who uses faulty methods cannot get ahead nor will pressure upon the faculty be of any avail. Our experience has been that the motive to receive excess credit has not in any way lowered the ideal of scholarship in the school. It ought to strengthen it. The fellow who does good work first from a low motive may later do it from a high motive.

4. The objection that such a system may dangerously shorten the school life of bright students merits consideration. There is, however, absolutely no reason why our high schools and colleges should be so administered as to permit any "to miss such studies as sociology, geology, astronomy, biblical literature, and the problems and history

of philosophy." Professor Ruediger suggests that the correct way is to permit the bright student to complete his course in a shorter time by taking extra work and that the doubtful student be held on work until he has mastered it. Of course the student will be held on all prescribed courses until the work is finished. The student in the technical school, or in any other school, must complete the prescribed courses no matter how much excess credit he has. He can save only in the matter of electives. So it will be seen that this objection is not so serious after all, although it demands a better answer than has yet been given.

Perhaps the solution of the difficulty lies in the segregation of the bright from the mediocre students.

BOOK REVIEWS

C. **Hanford Henderson.** *What Is It to be Educated.* New York: Houghton Mifflin Company. (462. $1.50 net.)

In "What is it to be Educated," Mr. C. H. Henderson sets forth a system for the development of the individual from the cradle to the grave. The author as a philosopher and educator gives us a liberal and cosmopolitan treatment of the subject. Many of his views seem extremely radical and many of his ideas are different from those in general practice. He exemplifies to a marked degree the influence of Rousseau and Bergson,—the influence of Rousseau in the great emphasis which he places upon the development of the spirit through nature, the influence of Bergson in the stress which he places upon the essential fluidity and creativeness of life. The subject matter is suggestive, stimulating, provocative of thought, full of vitality and interest. A large number of questions are raised making the book essentially problematical. The author, however, does not leave us in the lurch, but defines his own position, offers suggestions, elaborates these suggestions and shows how he has personally applied some of them. He is not afraid to speak out and expose existing institutions and modes of thought to the searchlight of criticism. We may not agree with him in all his ideas, but we are certainly made to sit up and reflect. The encyclopedic nature of his treatment may best be indicated by the reiteration of the chapter headings and a short summary of the contents. The chapter headings are as follows: Foundations, Religion, Dogma, Bread and Butter, Body, the Years of Grace, Spirit, Bodily Accomplishments, Sharpening the Tool; the Awkward Age, the Life Force; the Wanderjahr, Afterwards, Live your Own Life, The Question.

The author defines Education as "the unfolding and perfecting of the human spirit," shows the interaction between information and development and points out that education rests essentially on religion and economics. Religion means to him a man's attitude towards life and he enters into a discussion of the history of religion,—he regards this as essentially the history of the human spirit,— the various world religions—the Hebrew religion, Hinduism, Buddhism, Shintoism, Confucianism, Zoroastrianism, the mythology of Greece and Rome and the robust mythology of the North; Polytheism, Christianity, Mohammedanism, the new phases of religion, the New Thought, and Christian Science. He postulates that the ultimate test of religion is service.

Dogma he defines as the specific belief of the individual, alludes to the obstructionist role which dogma has played in the past, shows that dogma may have a use as a hypothesis, and points out that dogma has its limitations and "must not be made a condition of personal salvation." Before accepting a dogma it must answer two tests—the rule of reason or degree of probability, and the pragmatic rule, i. e., the workability of the specific belief.

The "bread and butter" problem is axiomatic for providing for education. Parents and teachers must face this question. Its importance is individual as well as social—individual in that the child's physical condition must be fit; social in that society requires that every man return service for service received.

A more lengthy discussion of the interaction of body and spirit follows. The supremacy of the spirit is emphasized but also the dependence of the spirit on the body. The body is the tool of the spirit and without its proper care the spirit cannot attain its fullest capacity.

The years from birth to fourteen are considered as "The Years of Grace." Care should be taken that the bodily conditions and sense organs are in good working order and are properly developed. Two experiments of the author—one in California and another in New Hampshire—are outlined for the purpose of indicating how outdoor training by means of camp-life may best conduce to the highest physical and spiritual development. The author believes that all training is simply a means for the highest unfolding of the child's spiritual nature and that by the age of fourteen a boy ought to possess magnetism, initiative, sincerity, truthfulness, concentration, thoroughness, courage, reverence, a high sense of honor, habitual serenity, a complete lack of self-consciousness, warm affection, good manners, helpfulness, unselfishness, and a keen sense of justice. A possession of these qualities is considered to be more important than the most complete knowledge of reading, writing, arithmetic, history, geography, grammar, spelling, classics, and natural science. The author holds that during these "years of grace"—one to fourteen—"there is no time for formal intellectual culture" as all this time is needed for "cultivating the spirit and training the body." He says that the spirit is the motive power and that "at fourteen or thereabouts a boy strong in the spirit will have no trouble in mastering language and mathematics and history and science. Indeed, he will already have mastered them incidentally to an extraordinary degree." During these years the boy should learn to walk, run, climb, jump, dance, wrestle, swim, dive, ride, bicycle, motor and canoe. The training up to fourteen would consequently be mainly one of co-ordination of the various parts of the body and of the sense-organs.

From fourteen to seventeen is considered "the awkward age," because increased maturity results in increased self-consciousness. This period should cover the high school curriculum and the subjects that are to be taught will be English, history, literature, mathematics, science, French, and German. There should be no direct vocational education. Girls and boys of this age should not be kept ignorant of sex matters. An approach to instruction in this latter subject could be best obtained "through a clear, biological statement of the fivefold cycle of all organic life,—birth, nutrition, growth, reproduction and death." The year from seventeen to eighteen could best be spent in travel. The author in this connection gives an interesting account of a tour by himself around the world, starting at Boston, passing over to Japan, China and India and going through Europe. He throws some interesting sidelights on the intellectual and spiritual life of those countries.

The college course should occupy the years from eighteen to twenty-one. The author hopes to see a change in "the pettiness of our present college life, with its absurd entrance examinations, its roll-calls, its espionage, its grave shaking of the head over trifles and the ignoring of essential things." A "Balanced Course" is proposed, consisting of the following subjects: 1. the mother tongue, 2. a foreign language, 3. a modern humanity, 4. a form of mathematics, 5. a laboratory science course, 6. fine arts. The broad foundation of culture rather than specialization should be the aim during these three years.

After twenty-one the individual should "live his own life" by entering the sphere of his life-work either by going into some phase of business or preparing himself for one of the many professions—ministry, law, medicine, etc. Development should not stop with graduation but should be continually moving onward and upward.

Conservatism, rigidity of language, science and art may be obstructionist agencies, and one should continually hold on to the dynamic view of life.

The author closes by saying that "life offers but one condition, activity—ceaseless, contemporary, creative activity. Each day the soul stands face to face with a wealth of possible experiences, so varied, so inexhaustible, so magnificent that the pulse beats with a divine excitement, and existence itself becomes a high adventure. To live in the spirit, to identify one's self with *life*, with eager, pulsating, abundant life,—this is to be educated. It is to live eternally. I say it reverently—it is to know God."

Mr. Henderson certainly possesses an emotional fervor and a style that carries conviction. His style is entertaining, full of vivacity and sprightliness and what has been said of one of his former works may also be said of this; namely, that "it bristles with more bright sentences, more antitheses, more keen thrusts at existing manners, modes and customs than any other work on education I ever read."

It is rather a pity that there is no alphabetical index of the subject-matter at the end of the book. An excellent bibliography is appended for further investigation along the lines developed by the author.

Mr. Henderson has established a new point of vantage from which to view the educational process and any parent or teacher who omits to read the volume will be depriving himself of a large number of helpful suggestions and a great deal of intellectual enjoyment and satisfaction.

F. E. GELDENHUYS.

University of California.

JOSEF REDLICH. *The Case Method in American Law Schools.* Bulletin Number Eight, The Carnegie Foundation for the Advancement of Teaching. New York. 1914. (Pp. 84.)

"The case-teaching system, as created at Harvard and now practiced and applied with excellent effect in numerous other law schools of American Universities must serve very largely as a model in the coming reform of our German law study* * *. Our faculties * * * will have to realize that, in the study of law, independent intellectual labor on the part of the students must form the real vital force of legal education* * *."

It is somewhat startling to the American reader to find a small department of our higher education, almost unknown to the educational world at large, thus commended by a German expert on the score of its unmatched efficiency. Yet this is the deliberate judgment of the author of this report, based on an inspection of ten representative American law schools, and a thorough study of the rather extensive literature of the subject. A little group of amateur educators in another profession, equally innocent of "Education I" and of the benison of the doctorate thesis, have stumbled, it would seem, upon an educational bonanza. The question at once arises, does this lucky strike contain elements of universal value? The chance that it may renders this report a document of some general interest.

The "case method" consists in a study of the original sources of our law, bound together in single volumes, each volume forming the text-book of a course. This fact, that it is the study of a particular institution by tracing, in detail, the steps by which that institution reached its present growth is what, in the mind of its inventor, gave it value as a scientific method. But, as Professor Redlich well explains, the emphasis, of late years, has shifted from this theoretical advantage to considerations which are much more practical. In the analysis of specific sets of facts, of problems that have actually occurred, in the discovery by the student of the principles that should apply to these facts, in the "Socratic method" by which these principles are brought out and defined in the class-room discussion, and, above all, in the informal discussions outside the class-room, students of law, from the first day of instruction, receive a practical training in the intellectual processes of their profession. Moreover, the cases studied or many of them, are not merely data from which rules may be derived, but models and masterpieces of legal argumentation. A fairly close analogy may be found in the English system of clinical training for medical apprentices vividly described in the October Atlantic, 1915, by Dr. Flexner, whose comments thereon are very much in Professor Redlich's vein.

The adaptation of the method to strictly professional purposes is, therefore, the strongest point in the system. Its best success depends upon the earnest co-operation of the student body, inspired, in some measure, with a professional *esprit de corps*. It would be rash to draw from its success far reaching conclusions as to the usefulness in other fields of methods to which its likeness is but superficial.

Dr. Redlich's criticisms are, perhaps, of broader application. Idolatry of their method on the part of its practitioners—a natural result of its success—has brought systematic instruction of the older type into a total disuse which, in Dr. Redlich's opinion, is most unfortunate. Moreover, the method is most exacting of the teacher's energies. Absorption in the perfection of its technique has resulted in a striking sterility in productive professional scholarship on the part of law teachers as a whole, with some notable exceptions. The success of the "case system," therefore, may well serve as a warning as well as an incentive.

John Norton Pomeroy.

College of Law, University of Illinois.

W. F. Book. *First Annual Report on Vocational Education in Indiana.* Published by State Board of Education, Indianapolis, 1914. Pp. 61.

This report is devoted mainly to a summary of the progress made under the recent legislative provisions for vocational education in Indiana. Portions of the report contain discussions of the problems as yet unsolved and plans for increasing the future scope and breadth of the new venture.

Fifteen cities availed themselves of the provision of state aid for vocational work and offered vocational courses in day or evening schools in which 4020 individuals enrolled during the fall of 1914. In addition the regular schools made considerable progress in instruction in the practical arts subjects. In these a total of 114,073 boys and girls studied elementary agriculture, domestic science, or industrial arts. Twenty-seven counties were provided with county agents of agriculture and thousands of meetings were held at which farm problems and improved methods of farming were discussed with the farmers. In addition many boys' and girls' clubs were organized and much practical instruction was given to their members in agriculture and domestic science.

The discussions of the unsolved problems and the plans for the future are suggestive. The analysis of the vocational needs of the state shows in a general way what ought to be done but this analysis should be carried further, a fact which Mr. Book recognizes. His analysis of the groups of students for whom provisions must be made, however, does not contribute anything new to the solution of the problem because it divides the students into groups based on amounts of education received and not on kinds of education needed. The weakness of such a classification can be readily shown by an illustration from the commercial field. The best foundation for the training of the business college is probably four years of university work but many stenographers prove at least moderately successful with only an elementary school foundation. Further, Mr. Book presents the problems of the continuation school and some of its limitations.

The discussion of "vocational education and the high school" is somewhat obscure because of a confused terminology. The necessity of providing real curriculums instead of paper curriculums for the various pupil groups is clearly presented, but the use of the term, "course," with two meanings, which fortunately have been defined as course and curriculum* by educational authorities, is somewhat confusing.

Another need presented is that for higher trade schools which will prepare workmen for the upper levels of industry where unusual skill and breadth of view are desired.

Other problems pointed out are those arising from the desirability of providing trained teachers for the vocational schools and those growing out of the movement for vocational and educational guidance. Mr. Book's recommendations on both points are very sane.

C. E. Holley.

Ohio Wesleyan University.

Short-Unit Courses for Wage Earners and a Factory School Experiment. Bulletin No. 6, Miscellaneous Series. Washington: Bureau of Labor Statistics, 1915. Pp. 93.

"This Bulletin contains a list of short-unit courses in various trades and occupations, and a discussion of their application to trade—extension work in part-time and evening—schools."* These courses are designed to meet the needs of such groups of workers as specialized machine hands, skilled workmen who need the newer phases of their trade, workers in occupations where there is a small body of knowledge of tricks of the trade, specialized workers who wish to advance to another portion of the industry, and skilled workers who cannot be induced to take long and continuous courses. The especial adaptability of these courses for this work is clearly shown by the discussion.

Those who are confronted with the problem of giving vocational training to wage earners will find much in this bulletin that is suggestive. The administrative difficulties which may arise are carefully forecasted and devices for dealing with them are presented. Further, the value of such courses for evening schools and part-time schools is shown in a way that is convincing.

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*See High School Terminology—Charles Hughes Johnston. Educational Review, March, 1915. Pp. 228-47.

The factory school experiment described was a co-operative venture in which one of the white goods factories and the Board of Education of New York City participated. In this school 42 illiterate girl workers were instructed in practical elementary school work for a period of 40 weeks. When this instruction had been completed the factory management reported that these workers showed an increased efficiency of from 20 to 70 per cent. The workers themselves profited by an increased earning power which added an average of $70 to the yearly wage of each of these workers. This is an interesting demonstration of the vocational value of educational fundamentals.

C. E. HOLLEY.

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EDITORIALS

What Is Curriculum Differentiation?

SOME educators seem violently opposed to what they call curriculum differentiation. There are many others who are as ardent supporters of what they in turn are pleased to call curriculum differentiation.

Are they talking about the same thing? We do not believe they are, quite. Do they want the same thing from the public schools? We do not believe they really do, although they seem all to be voicing "democracy." Can we so state the problem as to dissolve it? We once thought we could, but are not so sure now. Do the two proponents really desire to come to an understanding, or do they wish to forward somewhat different educational interests and traditions? We believe the latter although the issues are intricately involved ones. Who are the opposing forces of educators? We shall as before roughly characterize them as "Absolutists" and "Experimentalists," one opposing curriculum differentiation, the other advocating it as a school policy.

ABSOLUTISTS

The absolutists oppose it as a school policy (as applicable below the tenth grade) and think of it as a wilful segregation of 7th, 8th, and 9th grade boys and girls in order to subject them forcibly to different and alienating trainings, to keep them spatially apart during the operation of reciting, to make them unlike for the mere sake of unlikeness, and to allow "privileges" to some in the form of extra work, systematic opportunity for different rates of progress by groups, special coveted skills where feasible, and favorable conditions for the *culture of personalities* by whatever means these personalities may be affected (linguistic, clerical, domestic, manual, pre-vocational or otherwise). These absolutists are temperamentally suspicious of any "encroachments" upon the historic preserves of the now idealized elementary school.

In the Introduction to the Fourteenth Yearbook of the National Society (concurred in presumably by all the well-known contributors) we read about the uniform process which must be made universal—nationalized—of providing in an elementary school the knowledges, ideals and habits as well as skills in such a way that they can become the common property of all Americans. This "accepted function" of the elementary school is to secure an aggressive democratic society, with members who can use rightly and profitably not only work hours but leisure hours, who are not only self-supporting and self-directing, but who have also co-operative capacity and the abilities of leadership.

Connect with this ideal, say the absolutists, the natural assumption that the items of *content* (facts and concepts) of systematic (textbook!) knowledge are, with the "tools" of education, the only means at hand for making it possible for democratic citizens to talk sympathetically together and contribute to the progressive evolution of our democratic society, and we have an incontrovertible argument for the paramount importance of the "extended-upward" single curriculum. Clearly the business of democracy is to set at once about the urgent work of determining once for all these "absolute essentials," fixing them rigidly and permanently in the core of our non-differentiated but extended elementary school curriculum, and then to find by the vast national experiment thus inaugurated the way to make these perfect little citizens take our scientific common pabulum in the most acquiescent manner consistent with intellectualistic digestion and with the utmost of precision as regards accuracy and regularity of swallowing. This daring dream of national uniformity enables us to picture more easily the block universe and to appreciate the literal and easiest interpretation of the melting-pot doctrine. It tends to remind us forcibly that the amazing belief in *content* is still widely current. It has taken on the new function of making for "aggressive democracy" and producing "ideals."

EXPERIMENTALISTS

The experimentalists agree with all the high and well-expressed purposes of American democracy noted above. What they refuse to adopt as the necessary means to accomplish this democratic goal is just this over-systematized and unadaptable common fund of mere items of information. It is, they think, the old American text-book uniformity philosophy of a curriculum—a fool-proof curriculum—the educational philosopher's stone. They suspect the thin veneer of such education for all alike, whether they are suited for it or not, especially for the years 13 to 15 when conscious development of trained individuality can and should be uppermost. They see eight classes of educators in so far as groupings may be made with reference to attitudes on this matter of curriculum differentiation.

EIGHT CLASSES OF EDUCATORS GROUPED ACCORDING TO THEIR ATTITUDES TOWARD CURRICULUM DIFFERENTIATION.

The absolutists as described above represent the *first class.* Those moderately progressive schoolmen, who are in increasing numbers adding extra subjects to the 7th, and 8th grades (manual training, domestic science, training in the fine arts, physical education, systematic auditorium exercises, etc., etc.), and who are allowing those pupils able to do it to start a foreign language, for example, early and abbreviate their course of college preparation, constitute a *second class.* Here there is a sort of differentiation of curriculums, of course, although nothing fundamental in either school administration or curriculum construction. A *third class* may be mentioned who quite thoroughly reorganize the usual content of ordinary elementary school subjects and even add a subject called "Industry," to be so taught as to contribute both to industrial insight and general vocational skill. Here again we have a sort of reform introduced into the old curriculum of the upper grades.

A *fourth class* is well described and appreciated in a new book (and an excellent one just from the press), Leavitt and Brown's Prevocational Education in the Public Schools. Here we have proposed a psychological basis for such a reorganization that we shall have virtually in the intermediate years two entirely independent curriculums, one (the old one overhauled) for the academic type of pupils (with no chronic indisposition nor inability to do the usual work of these years), and another for the "prevocational type" (some of whom are now marking time in the grades, and more of whom, over-age, are balking all efforts at proper administration of the first six grades for those children by age and maturity entitled to be taught by themselves and taught genuinely elementary material. This fourth type of curriculum attitude calls for a two-fold curriculum differentiation, but places minor emphasis upon special vocational preparation.

Contrasted with this psychological principle of differentiating curriculums and student groups therefore, we have a *fifth type*. Here we have a five division curriculum organization for real junior high schools. Solvay, New York, is representative of this advanced professional attitude toward curriculum differentiation. Here we note for the same three intermediate grades an arrangement whereby the school system administers five parallel and cleanly differentiated lines of study for as many clearly marked off pupil groups. The basis for differentiation here is industrial and social as determined by reasonable vocational expectations, discovered by vocational survey, modified by a system of vocational guidance and safeguarded by a "readjustment year."

Still another and very ingenious method of curriculum differentiation, having many points of advantage over any of the others above, is the *Ettinger scheme* of six cross-section curriculum offerings administered in connection with a parent-teacher-pupil co-operative choice of courses. The author calls his scheme "prevocational" work for the 7th and 8th grades which is "trade preparatory plus vocational guidance plus academic training." Lastly in this list, as representing the most revolutionary and in some respects the most ideal (whether practical everywhere or not) attitude toward curriculum making, stands the *Gary Plan*. Here all differences as to general and vocational education vanish. The reorganization is so profound that our artificial terms of differentiation no longer characterize. "Vocational" considerations here have so profoundly altered "general" that general education of the traditional sort becomes meaningless and vocational education of the modern necessarily artificial sort is clearly seen to be superficial.

THE POINT OF VIEW OF EDUCATIONAL EXPERIMENTALISM ILLUSTRATED

Where do the experimentalists stand? They stand for experimentation with curriculum differentiations of all the types mentioned above. Curriculum differentiation, starting after the rearranged and systematically reorganized and condensed six years of elementary education, does not mean the shifting of the educational center of gravity from the interests of a high collectivism to the individual self and his immediate welfare, as the opponents think. It means rather that a socialized conception of all education is to prevail during the 20th century; and that, even though necessarily different curriculums may contain different sets of ideas, different items of information, different kinds of exercises for perception and memory and judgment and reasoning, and different actual skills and physical habits, still the spirit and character of it all can well be social, thereby in its double contribution effecting freedom, elasticity and variety among individuals and, for this very conditioning fact, a *consequently richer democracy of real self-directing individuals* who have had meted out to them by a public educational system the sort of education which the industrial and social state made necessary, as well as the sort always necessary from the very fact of the humanity of man himself.

The Confusion of Terms

The terminology discussions, terminology committees, terminology reports, and the legislative adoptions of set definitions of terms to be employed, especially in matters of vocational education, indicate a disposition favorable to co-operative thinking upon this urgent question. It is noteworthy that the two inclusive terms, "general education" and "vocational education" have never been clearly distinguished nor adequately defined. From some points of view they may, as is claimed, be conceived as identical, from other points of view they are as clearly contradictory.

As is often the case with the curriculum differentiation issue discussed above, those defining these terms were also often unconscious of the subtly influential professional or personal point of view they were assuming. If one defines general education as that education which *does not* deal directly with a group of pupils *with respect to equipping them definitely for immediate use of a special training,* he is assuming the point of view of a designer of a special curriculum, and forgetting for the time the other partial truth, that all good teaching of respectable educational content will have some measure of special applicability. Another, from the point of view of a psychological analyst of the *quality of exercises induced by the study of a particular subject* in this general educational work, may quite well see that, as a matter of fact, the particular mathematics or English course does furnish any group of pupils some special training immediately useful; forgetting likewise the curriculum designer's professional point of view that it is, nevertheless, incidental special training, and not part of some design of a specially conceived curriculum. The disputants are in fields of discourse which do not entirely overlap. Unless the issue therefore be restated they can never come permanently together.

A RESTATEMENT OF THE ISSUE

In restating the issue the obvious thing to do first is to discard the equivocable terms altogether, and employ more definite ones in which terms themselves the point of view assumed is made explicit. We may therefore give up as impossible a definition of either "general" or "vocational education." Assuming for the sake of clearness that there are to be differentiated curriculums and assuming that there is to be a designer of these different lines of educational work we may define from this point of view a "general curriculum," a "general course," a "vocational curriculum" and a "vocational course."

"Curriculum (course of study), is any systematic arrangement of subjects and courses which extends through a number of years, and which is planned for any clearly differentiated group of pupils. Administratively a "curriculum" represents an arrangement of courses within which a pupil is restricted in his choice of work leading to graduation.

"School Subject" refers to any one of the well recognized divisions of knowledge, one or more courses or half courses in which are offered in the programme of studies, such as history or German.

"Course" is the quantity, kind and organization of subject matter of instruction in any high school subject offered within a definite period of time for which a credit unit or a fraction of a credit unit toward graduation is granted, as second year Latin or first year algebra.

"Pre-vocational Curriculum," includes all the instruction and training of the years immediately following the first six years of elementary education which may be distinguished from the general, or academic education of these same years by the fact that in content and method it is designed to prepare the pupils for carrying on the operations and processes, both of intelligence and of manual skills, common to groups of fundamental vocations. It is distinguished from "vocational curriculum" in the necessary limitation in definiteness and completeness of its special trainings and in the fact that it is only a partially differentiated scheme of training.

"General Curriculum" is a curriculum designed primarily to meet the general and later professional needs of a group of pupils who choose definitely to *postpone* their special preparation for a particular vocation.

"General Course" is a course which equips an individual for his future duties and opportunities without definite reference to those connected with his special vocation.

"Vocational Curriculum" is a curriculum designed to meet the needs of a group of pupils who are to enter immediately a recognized vocation.

"Vocational Course" is a course which equips an individual with the specific skills and insights peculiar and essential to his chosen vocation.

"Curriculum System" implies the organization of courses into distinctive curriculums definitely planned with reference, not to each individual's personal needs only, but with reference largely to the different educational requirements of special groups of pupils, curriculums based upon social as well as upon psychological considerations. This system emphasizes chiefly the election of curriculums only, allowing some leeway within each curriculum, but allowing for the time little freedom for individual choice of studies belonging to other curriculums than the one to which the pupil has been assigned. (See Solvay, N. Y., and Madison, Wisconsin.)

THE BEARING OF THESE TERMS UPON THE CURRICULUM DIFFERENTIATION ISSUE.

Some who earnestly deplore the movement to differentiate curriculums for 7th, 8th, and 9th year pupils have evidently vividly in mind a process of pigeonholing arbitrarily selected groups of helpless children and contriving for them a sort of curriculum in which every one of the time-honored, and, of course, in many cases, experience-tested school subjects are unrecognizably altered. This is indeed a possibly type of differentiation but an extremely unlikely eventuation of the on-the-whole wholesome movement to vary in less radical ways schemes of training for particular groups, such as girls and boys, pre-vocational and academic minded, slow-moving and fast-moving, etc. One can have genuinely differentiated "curriculums" (two or more) and still have many of the same "courses" functioning in each of the curriculums administered by the school system. It is very true that many of the "courses" will tend to become modified because of their "curriculum settings"; but this again in turn in no way precludes nor lessens the probability of their preserving their distinctive educational values as "subjects." This kind of "modification of courses" is in principle not different from the method now of all good teachers in varying illustrations, examples, theme assignments, history topics, special supplementary elementary science problems, etc., for the different mental constitutions of the members of classes. It is merely from this point of view pushing farther, through administrative technique, the *school's adaptation to the problem of individual differences.* If our psychological basis for differentiated treatments for groups of pupils is one guide and if the, also unescapable, social and industrial needs of these same groups figure too in our school plans of administering instruction, we may reasonably hope in time to so harmonize these two profound and sometimes conflicting principles as to evolve from them both a reliable guide for immediate curriculum making.

THE MODIFICATIONS OF JUNIOR HIGH SCHOOL SUBJECTS BECAUSE OF THEIR DIFFERENT "CURRICULUM SETTINGS."

What shall be the modifications of subjects because of their different "curriculum settings?" One Junior High School principal writes: "The work as we give it is divided into six separate curriculums. While often the same subjects may be required in the same curriculum, there may be considerable difference between the subject as given in one curriculum and the same subject as given in another curriculum." English in all curriculums, for example, means less technical grammar than in the former elementary course. English in the domestic, practical arts and prevocational curriculums means no technical grammar at all. History in the academic and commercial curriculums is like the traditional courses; in the domestic, practical arts, and vocational places there is much more emphasis upon inventions and commercial history. Arithmetic in the academic soon enters upon a treatment of commercial applications of percentage as algebra and mensuration as geometry; while the commercial curriculum, devoting all the time to commercial applications, aims, more narrowly, to attain a trade standard of accuracy and speed in computation—sacrificing perhaps something of the purely mathematical exercises. So with the drawing work and the science work. He goes on to explain how the academic group takes German five times a week, while the commercial pupils are taking typewriting two years and book-keeping one, and the household pupils are having two double periods each in cooking and sewing; practical arts pupils four double periods in shop and one double period in shop drawing, and the vocational pupils, their longer school day and school year in practical work. All academic boys and girls get some of the shop work or the cooking and sewing.

These particular modifications of courses and subjects, possible because of a school policy of curriculum differentiation, may not prove to be just the best or even the permanently good ones. They nevertheless serve to illustrate the sort of flexibility the advocates of curriculum variation interpret modern social and industrial conditions as demanding.

ANOTHER CLASSIFICATION OF ATTITUDES TOWARD CURRICULUM DIFFERENTIATION.

There are those who oppose all variations from a type design in curriculum construction for all parts of the country and for all states alike, and oppose all "modifications" of school subjects as these modifications are to be determined by the curriculum settings in which they are placed. The radical wing of the other party relegate these to the outer darkness. They (the Absolutists) are in the "dark ages" of modern educational intellectualism and academicism.

Again there are those who wish to see carefully devised lines of training for distinguishable pupil groups wherever the basis for this distinguishable sort of curriculum treatment is clearly derived from adequate psychological analysis of pupils interests and aptitudes, and supported further by vocational analysis of local and wider occupational possibilities. These are in the van of the modern movement for a more flexible program of education for the beginning adolescents of all types. They are par excellence "Experimentalists."

There is a third group. The Gary people, wherever they may be found, should be classified here. We shall not attempt to deal with their views now, but shall call them, provisionally, "Experimental Idealists."

C. H. J.

Dartmouth's New Relations With Secondary Schools

TAXES and the weather interest the world at large. Entrance requirements interest the college administrator. While Harvard, Yale and Princeton are congratulating themselves upon the fact that they have co-operated in placing a sort of intercollegiate aspect upon this new plan of entrance, as indeed they have done, Dartmouth has gone them one better in effecting closer relationships with the scholastic public.

Desiring to promote a "more personal, and less perfunctory relationship with preparatory schools" this college has withdrawn from the New England Entrance Board and plans to erect and to administer her own standards for schools preparing students for Dartmouth. An Executive Secretary of the Committee on Admissions, with faculty assistance, will make personal visitation and discuss directly all the questions connected with admissions, confining for the first year these visits of inspection to New England and the East.

There has been worked out an admirable set of standards by which the certificating privilege will be awarded. The announcement emphasizes the fact that all relations are to be co-operative, not critical.

There is a further explicit recognition of "the necessity of a somewhat different standard for graduation from secondary school and certification to college." Principals are urged to insist upon actual evidence of ability to do the Dartmouth type of work before they send students there. The Committee will send back to each school the mid-semester marks of those of its students in the Freshman class.

The New Hampshire State College recognizes no such distinction between high school graduation and college entrance. The state superintendent of public education has his list of accredited state secondary schools and any graduate of these enters without condition. This same state educational official will from time to time investigate the college records of high school graduates and check his ratings accordingly.

Harvard, Dartmouth and New Hampshire State College represent three stages in the direction of having colleges recognize all sorts of high school graduation as being equivalent to college entrance standards. As we pointed out in an editorial for January, 1915, we feel that both college and high school may suffer from any hasty identification of these two standards.

C. H. J.

BOOK NOTES

(More extended reviews of some of these books may be expected in later issues.)

FRANK P. BACHMAN. *Problems in Elementary School Administration: A constructive study applied to New York City.* New York. 1915: World Book Co. (Pp. x 274.)

This most recently published section of the Hanus School Efficiency Series consists of two parts. Part I deals with the intermediate or junior high school.

The facts regarding the operation of the schools in New York City, i. e., the comparative cost, the effect of such schools in keeping more pupils in school for a longer time, etc., have been collected and their significance for further development in school organization and administration are pointed out. In the light of these investigations and interpretations certain recommendations are made. These include a similar investigation of such schools to be extended over a much longer time than that covered by the investigations here reported, a study of local conditions in communities where such schools might seem suitable, and the establishment of junior high schools where the conditions are found to be favorable.

Part II treats of the progress and classification of school children. Some very interesting facts are brought out here showing that the elementary school course, while usually termed an eight year course, is in reality from one to three years longer for the majority of children in New York City; and there seems to be no reason for believing that these conditions are peculiar to New York. Inasmuch as the amount of promotion is taken as the most significant indication of the efficiency of a school or a school system, the author has deemed it worth while in this latter section to go in some detail into the methods of constructing an age and grade table, the time of the year for making such a table, and certain other factors which bear directly on the promotion and retardation problem.

The point which stands out most prominently here is the diversity in methods of determining the amount of retardation and promotion in different school systems. There is no agreement as to when promotions are to be made, what time during the school year, or after, the amount of promotion is to be determined, and what such vague terms as "in (a certain) grade" shall mean.

The statistics are valuable in themselves, as representing so large a system as that of New York City, and the conclusions deduced therefrom by the author should be helpful as suggestions toward more systematic methods in school administration generally.

Carolyn Sherwin Bailey. *Montessori Children.* New York: Henry Holt and Co., 1915. (Pp. iv, 188. $1.25.)

In this book Miss Bailey gives us her study of twelve children of whom she took careful records when she went to Rome in 1913 to study in the Montessori School the results of the Montessori system of education. Each of these children had some pronounced aptitude or fault, natural childish characteristics, and in these delightfully written sketches of the individual child, we learn what Montessori actually did to correct the fault, or develop the special aptitude. In one chapter, for example, we learn how, through her physical education, the bent limbs of little Valia and the tired-out spine were straightened; in another, of the awakening of conscience and spiritual sense, in others, of helpfulness, social development, imagination, of sense training, color-teaching, reading, writing, etc.

The book will be of interest and help to mothers and to all those concerned in the development of little children, whether or not they are especially in sympathy with the method of Dr. Montessori.

Adolph A. Berle. *Teaching In The Home.* New York: Moffat, Yard and Co., 1915. ($1.25. Pp. xxii, 354.)

Mr. Berle has called this book, "A *Handbook* for Intensive Fertilization of the Child Mind for Parents and Instructors of Young Children." In his introductory chapters to parents on some fundamental principles of teaching in the home, he is not only stimulating and inspiring, but he tells in a common sense way "what to do" and "how to do it." The various chapters on English, Geography, Science, Geometry, Ethics, etc., show how these studies, many of them commonly reserved for college work, may be successfully begun with young children. He aims always, he tells us, to aid not fight the schools; nevertheless his book constitutes a forceful brief for those who would have the education in the home complement rather than supplement that given in the schools.

Samuel Paul Capen. *Opportunities for Foreign Students at Colleges and Universities in the United States.* U. S. Bureau of Education. Bulletin Number 27, 1915. Whole number 654.

The object of this bulletin, issued by recommendation, and under authority, of the Commissioner of Education, is to present to foreign students desirous of coming to America, the educational opportunities offered in the colleges and universities of this country and the regulations governing the same.

A short statement of the general educational system in the United States, showing the relation of the higher institutions to the lower in our ladder system, is first given and compared with the important European systems. Then follows a brief description of the various types of higher educational institutions, and following this is a rather detailed description of the leading colleges and universities; the living conditions, expenses, opportunities for self-help, fraternities, religious organizations, etc., and the number of foreign students now resident in each institution. Finally all colleges and universities requiring as much as fourteen units of credit for entrance are reported and classified, according to the curriculum offerings and to their relative ranking.

W. W. CHARTERS. *Teaching the Common Branches.* New York: Houghton Mifflin Company. (Pp. x, 355.)

This book is intended for inexperienced, and more especially for rural teachers. The courses that these teachers have had in the the theory of education, if indeed they have had any such courses at all, were planned primarily for grade teachers in city schools. Working knowledge derived fróm such work can be applied only to a small extent in the rural school work, says the author.

The method of the book is to take up first each of the elementary school subjects separately, and to conclude with a more general discussion of the work as a whole. The author, somewhat contrary to custom, refrains from frequent quotations and from a mass of generalizations, on the ground that most teachers cannot make the applications for such generalizations when given.

Under each subject, various devices for securing the interest of the pupil are suggested. The use of objective scales (ex, the Thorndike Handwriting Scale) by the pupil in those subjects in which such scales have been worked out are recommended as a means of spurring the child to compete with his own past record.

After giving one chapter to each of the school subjects the author devotes the four remaining chapters of the book to four more general topics. These are principles governing the selection of subject matter, methods of developing interest in the subject, development of problems and methods of study, and methods of assignment.

The author has had experience as a country teacher, and throughout the book he consistently takes into account the disadvantages under which the rural teachers generally labor. The work does not appear to be a very valuable contribution to educational theory, but this the author does not claim for it. On the other hand, many of the devices and practical hints contained in it should be worth the acquaintance of the teachers for whom the book is primarily intended.

CHARLES GIDE AND CHARLES RIST. *A History of Economic Doctrine.* Translated from the 1913 edition by R. Richards. New York: D. C. Heath and Company. (Pp. xxiii, 672.)

"In economic history, as distinct from the history of economics, there is not a single chair in the whole of France. Elsewhere the positions are reversed."

This partiality, or attachment, of the French nation for the doctrinal as opposed to the material economic history is exemplified in this book. The authors recognize this penchant of their fellow countrymen. They also acknowledge the preponderance of space devoted to French doctrines, and they justify themselves by indicating that the book is intended primarily for French students, and that these, as all readers, "desire to learn more about those things of which they already know something.

The authors have begun with the latter part of the eighteenth century, and have traced what seemed to them the more important economic doctrines, as influencing present economic theories, through five epochs.

The first epoch, which includes the last part of the eighteenth century and the beginning of the nineteenth, treats principally the early classical political economists and the Physiocrats. The second epoch comprises the first half of the nineteenth century, and in it are discussed the doctrines of the adversaries, or the opponents of the former theorists. The third epoch, embracing the middle of the nineteenth century, is concerned with the triumph of the Liberal school. The second half of the nineteenth century falls into the fourth epoch. The Historical school, State Socialism, Marxism, and Christian Socialism are all treated here as dissenters from the liberalism of the former epoch. The last half of the nineteenth century and the beginning of the twentieth constitute the fifth and last period. Under the heading, "Recent Doctrines," are discussed the Hedonistic doctrine; Solidarism, characterized here as an attempt to bridge the gap that exists between individualism and socialism; and anarchism, understood as "impassioned liberalism."

The questions which the authors put to themselves and endeavored to answer were: "Who is responsible for formulating those principles that constitute the framework of economics as at present taught"; and "At what period were these principles first enunciated, and what were the circumstances which accounted for their enunciation at just that period?"

The treatment follows, as represented above, a time sequence, but where circumstances seem to justify another order this is not adhered to strictly.

The authors have had to consider a voluminous, a well-nigh inexhaustible literature. At the same time, they have had as an object the inclusion of their material in one volume. As a result, the doctrines reproduced cover a necessarily narrowed field. Critical estimates by the authors are too, for the same reason, somewhat limited. A great amount of selection being necessary, the selection has been well made and representative, and the interpretation is worthy of authors of such repute as Gide and Rist.

The translator, R. Richards, need make no apologies. His translation seems to be clear and adequate, and, as he says, the dearth of such literature by Englishmen amply justifies him in making available to English readers the work of his illustrious neighbors.

FLORENCE M. HOPKINS. *Allusions, words, and phrases that should be known and where to find them.* Detroit: The Willard Company, 479 Sixth Street, 1915. (Pp. 116, 38c.)

"Allusions, words, and phrases that should be known and where to find them" serves as the title of an alphabetical list of over one thousand allusions that are apt to be referred to in literature and lectures, compiled for use in high schools by the author, who is librarian of the Central High School, Detroit, Michigan.

The pamphlet is especially designed for use in English courses in high schools, as a basis for training in the looking up of references and in the comparative use of dictionaries and encyclopaedias.

Words in the list are printed in different types in order to serve as a suggestion for grading, and to scatter the work rather evenly throughout different years. Small capitals suggest that a student in an upper grammar or junior high school grade might reasonably be expected to know or to learn the general meaning of the word or phrase so printed. Roman type suggests the same for pupils in the middle and senior high school grades. Italics indicate that the allusions are beyond the average high school course. These types are again graded by numbers. This numbering separates the list into nine practically equal parts. If desired, words numbered 1 could be followed through during the first term, those numbered 2, the second term, etc., throughout the high school course.

In order to emphasize five important and relatively inexpensive reference works which should be well known by every high school student, directions as to how each word may be found are given by means of columns for the following: Webster's New International Dictionary, Funk & Wagnalls New Standard Dictionary, New International Encyclopedia, New Student's Reference Work, Gayley: Classic Myths in English Literature.

JOSEPH KENNEDY. *Rural Life and the Rural School.* New York: 1915. American Book Company. (Pp. 186.)

This new book from the pen of Professor Kennedy is one of the many contributions now being made to rural life and education. Although Professor Kennedy's book has very little new material to contribute to the subject, the organization and presentation of the topics are interesting, readable, and profitable for all. The emphasis in this work, as in most of the recent books on rural life and education, is placed upon the rural school and its problems. While the rural school is perhaps the one institution having most to do with the development of rural life, yet rural educators must recognize that the rural school is only one of many other phases which must be utilized toward the meeting of fundamental rural life needs. The conservation of agricultural resources, the improving of rural life vocations, preservation of health, the creation and appreciation of art, closer organization of rural forces, the liberalizing of the education of rural forces, and the maintenance of higher moral standards —all these are rural life needs to which rural agencies at work must address themselves. This book under discussion seems to be limited in its vision of rural life and its needs. For the rural teachers such limitations are, however, often necessary in order to find an entering wedge for their wider outlook.

E. E. Lewis. *Work, Wages and Schooling of Eight-hundred Iowa Boys in Relation to the Problems of Vocational Guidance.* University Extension Bulletin No. 9, 1915. Iowa City: University of Iowa Press. (P. 33.)

This bulletin is the result of a two-months' study of vocational problems in Des Moines and Sioux City. The material is well organized and numerous tables add to the value and general clearness of the bulletin. The conclusions are carefully made and nowhere does the author allow himself to overrate the weight of the data at hand. This evident fairness should have its effect on the one who is still skeptical about the reality of the vocational guidance movement or who can see in the present conditions no problem touching the administration of the American public school.

The topical heads will give the reader a suggestion as to the contents of the bulletin: Age of boys under investigation; school last attended; age and grade at time of leaving; reasons for leaving school; length of period of idleness before getting a job; how the job was secured; number of jobs since held; length of time at each; reason for change; beginning wage; correlation between leaving-grade and beginning-wage; correlation between leaving-age and beginning-wage; finally, the correlation between experience and the beginning-wage. The material is a worthy addition to that already collected in this field. The bulletin could be made of more use to the general public, however, if the publisher would number the pages of the next edition.

Martha MacLear. *The Kindergarten and the Montessori Method.* Boston: The Gorham Press, 1915. (Pp. 114. $1.00.)

The author is interested in facilitating the reconciliation which in her opinion is inevitable between the Kindergarten and the Montessori method. While feeling that many things in the kindergarten, such as the music, the games of all kinds, and the stories are too valuable ever to be dispensed with, yet there is a need for a change in method and procedure, and that such a change can be brought about by adopting into the kindergarten Dr. Montessori's two fundamental principles of liberty and education founded on the spontaneous activities of the child.

The author begins with interesting explanatory chapters of the kindergarten and the Montessori Method and their possible adjustment, and follows these with a critical study of the value and the limitations of the various phases of the kindergarten, the gifts, handwork, music, games, stories, and nature study.

Although many will not agree with the author's ideas, the book will do much to stimulate thought on this subject of the child's early education. Professor G. Stanley Hall says in his introduction, "the conception of bringing together the ideas of Froebel, Montessori, genetic psychology and experimental psychology struck me as a desideratum I had, long been waiting to see."

Miss MacLear is Professor of Elementary Education and Director of Kindergarten Education at Howard University.

C. W. VALENTINE. *An Introduction to Experimental Psychology.* Baltimore: Warwick and York, Inc. (Pp. x, 194. $1.10.)

Valentine asserts that many of the most valuable experiments for educational psychology, contrary to general opinion, do not require expensive apparatus. In this little book, which he says can be used with practically no apparatus, he gives an interesting account of many of the more common tests; such as the rote memory tests, association tests, and the Binet-Simon intelligence tests.

The author recommends this book for the home use of students and teachers. He believes that it will be valuable in connection with, and supplementary to, a first course in psychology. It may, he says, keep a teacher from becoming a slave of routine, presumably by suggesting interesting tests that can be profitably interpolated into the required and possibly somewhat dry material of the text. Very full directions are given for the application of the tests.

The little book would seem, from a rather hasty examination, to be usable for the purposes for which the author recommends it.

PUBLIC SCHOOL ADMINISTRATION

IN THE TWENTY-FOUR PRINCIPAL

COMMISSION GOVERNED CITIES

OF THE

UNITED STATES

COMPILED BY*

THE PUBLIC SCHOOL LEAGUE OF BUFFALO

Verified June 1915
Research Committee
Public School League
Buffalo, N. Y.

CITY AND POPULATION 1910	MANNER OF SELECTING BOARD OF EDUCATION	HOW ELECTED OR APPOINTED	IS BOARD PAID OR UNPAID	MANNER OF SELECTING SUPERINTENDENT OF SCHOOLS	IS PUBLIC SCHOOL SYSTEM A CO-ORDINATE PART OF CITY GOVERNMENT OR SEPARATE	WHAT CONTROL HAS THE MAYOR OR COUNCIL OVER THE SCHOOLS	MANNER OF MAKING APPROPRIATIONS FOR THE USE OF SCHOOLS	SUPERINTENDENT'S POWER OVER APPOINTMENT AND DISMISSAL OF TEACHERS
Buffalo 423,715 After January 1, 1916	Appointed	By Council on Nomination of the Mayor	Unpaid	Appointed by Council on Nomination of the Mayor	Co-ordinate	Complete control by Council	Council includes School Department in its estimate for general fund. Amount for land, buildings and furnishings limited by statute.	"The Superintendent shall have [illegible] the hiring and discharge after a hearing of teachers in accordance with the provisions of this charter, or the rules adopted by the Board of Education, and subject to the general ordinances and regulations adopted by the Council."—Sec. [illegible].
New Orleans 339,075	Elected	At Large	Unpaid	Board of Education Appoints	School System separate	Council purchases sites, upon recommendation of Board, builds school buildings, and may appropriate, subject to approval by property taxpayers, in excess of constitutional limits	Board makes its own budget, except as noted in preceding answer	Teachers are appointed and dismissed under constitutional provisions
Washington 331,069	Appointed	By Supreme Court of the District of Columbia	Unpaid	Board of Education Appoints	Co-ordinate		Board of Education makes up estimates and confers with District Commissioners as to amount to be asked from Congress	Board appoints upon recommendation of Superintendent. President of Board may temporarily suspend teachers
Jersey City 267,779	Appointed	By Mayor	Unpaid	Board of Education Appoints	Public School System entirely separate under State control	No control by City Commission	Board of Estimate, composed of Mayor, two members elected by City Commission and two by Board of Education, makes budget and fixes amount to be raised by taxation, exclusive of state appropriation	Superintendent recommends from eligible list, subject to the concurrence of President of Board
St. Paul 214,744	After taking the oath of office, the Mayor appoints one of the Commissioners to be Commissioner of Education. Under direction and control of the Council, he appoints the Superintendent of Education and has charge of the schools.							
Denver 213,381	Elected	At Large	Unpaid	Board of Education Appoints	City and County of Denver, so far as schools are concerned, is a separate corporation, operating under State law. Independent in every way of the city government	No control by Council	Board of Education makes its own budget and tax levy within statutory limits	High School teachers nominated by Superintendent from eligible list. Elementary teachers elected by Board
Portland, Ore. 207,214	Elected	At Large	Unpaid	Board of Education Appoints	Public School System entirely separate corporation	No control by Council	Board makes up budget, and makes tax levy, within statutory limits.	Superintendent's recommendations usually followed
Oakland 150,174	Elected*	At Large	Paid $10 Per Meeting. Limit $50 Per Month.	Board of Education Appoints for 4 Years	"Education in California is a State function and schools are under State laws."	No control by Council	The Board of Education submits estimate to County Supervisors or to voters of District. The City may and does contribute but is not compelled to. Statutory limit.	Superintendent recommends to Board of Education. Their action is final
Birmingham 132,685	Appointed	By the Commission	Unpaid	Board of Education Appoints for 1, 3 or 5 Years	Co-ordinate	Council controls appropriations and appoints Board	Board of Education submits budget. Council appropriates usually after a conference	Superintendent recommends to Board of Education
Memphis 131,105	Elected	At Large	Paid $[illegible] Per Year and President $[illegible] Per Year.	Board of Education Appoints	Public School System operated under separate charter	Council levies and collects taxes for schools. No other control	Board makes budget within statutory limits. Council levies and collects taxes	Superintendent recommends
Omaha 124,096	Elected	At Large	Unpaid	Board of Education Appoints	Public School System separate and absolutely independent department	No control by Council	Board of Education makes its own budget up to statutory limits. Council makes levy; treasurer collects	Superintendent recommends
Dayton 116,577	Elected	At Large and by Districts	Unpaid	Board of Education Appoints	School System entirely separate from city organization	No control by City Commissioners	Board of Education makes its own budget. Is dependent upon the Budget Commission only and this is limited by the Smith 1% law	Superintendent appoints and dismisses teachers, and fixes salaries, all with approval of Board of Education
Nashville 110,364	Appointed	By the Mayor, confirmed by City Commission	Unpaid	Board of Education Appoints	Co-ordinate	Rules and regulations must be confirmed by the Commission	The Commission appropriates such amounts as it sees fit	Technically these matters are in the hands of Board of Education. In practice they lie largely with the Superintendent
Lowell 106,294	Elected	At Large	Unpaid	Board of Education Appoints	Practically separate	No control except over appropriations	Board of Education presents estimate to Municipal Council. Council sometimes reduces	Superintendent recommends to Board
Spokane 104,402	Elected	At Large	Unpaid	Board of Education Appoints	School District is a separate corporation from the City	No control by Council	Board of Education makes its own budget up to 1% limit. Additional amount must be submitted to vote of people	Such power as Board gives him. Superintendent recommends
Trenton 96,815	Appointed	By Mayor	Unpaid	Board of Education Appoints	Separate	No control except over appropriations	Board makes up budget. Must be approved by Board of Estimate, composed of Mayor, two other Commissioners and two members Board of Education	Superintendent recommends. Board approves
San Antonio 96,614	Elected	At Large	Unpaid	Board of Education Appoints Annually	Absolutely separate since [illegible]	No control by Council	Board of Education decides amount and fixes tax-rate for schools. Constitutional limits	Superintendent acts through a sub-committee of the Board which invariably follows his recommendations
Reading 96,071	Elected	At Large	Unpaid	Board of Education Appoints for 4 Years	Public School System separate and independent	No control by Council	Board of Education makes its own budget within statutory limits, levies its own taxes and makes its own appropriations	Superintendent recommends teachers in order from eligible list
Salt Lake City 92,777	Elected	By Wards	Paid $[illegible] Per Year	Board of Education Appoints for 2 Years	Public School System absolutely separate in every way	No control by Council	Board of Education makes its own budget. County Commissioners must approve up to statutory limits	Superintendent appoints and dismisses teachers and fixes salaries with the approval of the Board
Dallas 92,104	Elected	At Large	Unpaid	Board of Education Appoints	Separate department	No control except in purchase and sale of property where amount exceeds $1,000	Must be voted upon by the people. Statutory limits	Superintendent recommends. Board approves. [illegible]
Lynn 89,336	Elected	At Large	Unpaid	Board of Education Appoints	Practically separate	No control by Council except for new buildings and permanent improvements	Council decides amount for new buildings and permanent improvements. By law, $[illegible] on each $1,000 assessed valuation must be appropriated for maintenance	Superintendent's recommendations must be approved by the Board
Des Moines 86,368	Elected	At Large	Unpaid	Board of Education Appoints	Public School System separate department of city government	No control by Council	Board makes its own budget within statutory limits	Superintendent recommends
Lawrence 85,892	Elected	At Large	Unpaid	Board of Education Appoints	Practically separate	No control except over appropriations	"Council always appropriates what the Board of Education asks for"	Superintendent has no power
Kansas City, Kan. 82,331	Elected	At Large	Unpaid	Board of Education Appoints	Board of Education is a separate quasi-corporation with duties and functions defined by statute	No jurisdiction whatever	Board of Education adopts budget and makes tax levy. Statutory limits	Superintendent recommends to Board of Education

*Wherever possible, statements are direct quotations from correspondence

PUBLIC SCHOOL ADMINISTRATION

IN THE TWENTY-FOUR PRINCIPAL

NON-COMMISSION GOVERNED CITIES

OF THE

UNITED STATES

COMPILED BY

THE PUBLIC SCHOOL LEAGUE OF BUFFALO

Verified June 1916
Research Committee
Public School League
Buffalo, N. Y.

CITY AND POPULATION [illegible]	MANNER OF SELECTING BOARD OF EDUCATION	HOW ELECTED OR APPOINTED	IS BOARD PAID OR UNPAID	MANNER OF SELECTING SUPERINTENDENT OF SCHOOLS	IS PUBLIC SCHOOL SYSTEM A CO-ORDINATE PART OF CITY GOVERNMENT OR SEPARATE	WHAT CONTROL HAS THE MAYOR OR COUNCIL OVER THE SCHOOLS	MANNER OF DECIDING APPROPRIATIONS FOR USE OF SCHOOLS	SUPERINTENDENT'S POWER OVER APPOINTMENT AND DISMISSAL OF TEACHERS
New York 4,766,883	Appointed	By Mayor	Unpaid	Six-Year Term Board of Education Appoints	Practically a co-ordinate department; legally a separate department of the State	Mayor appoints Board; otherwise no control except over appropriations	The Board of Estimate and Apportionment presided over by the Mayor makes up the budget. The Board of Aldermen may reduce, subject to the Mayor's veto	Superintendent nominates to Board of Education from eligible list. Appointments and dismissals are wholly in the hands of the Board
Chicago 2,185,283	Appointed	By Mayor	Unpaid	Board of Education Appoints	An Arm of the State	Mayor appoints Board; Council must approve sites, buildings and bond issues	The Board of Education makes up the budget within statutory limits	Superintendent recommends to Board for appointments and must bring charges before Board for dismissal
Philadelphia 1,549,008	Appointed	By Court of Common Pleas	Unpaid	One-Year Term Board of Education Appoints	Separate department under State Code	No control	Board of Education fixes estimates and levies school tax within statutory limits	Recommends
St. Louis 687,029	Elected	At Large	Unpaid	Board of Education Appoints	Separate—"An Arm of the State of Missouri"	None whatever	Board of Education makes up the budget within statutory limits	Has control of the employment and dismissal subject to the approval of the Board
Boston 670,585	Elected**	At Large	Unpaid	Six-Year Term "Board of Education"** Appoints	Separate	Mayor has veto power on orders involving expenditures; veto may be overcome by 4 votes of Board which has five members	Various laws define amounts which may be appropriated	Superintendent appoints and removes subject to approval of the Board. Appointments are made in the order of merit from graded eligible lists
Cleveland 560,663	Elected	At Large	Unpaid	Board of Education Appoints	Separate	No control	The Budget Commission, composed of the County Treasurer, County Auditor, and County Prosecutor, makes up the budget within statutory limits	Superintendent selects subject to the approval of the Board, and dismissal can be only on charges approved by the Board
Baltimore 558,485	Appointed	By Mayor	Unpaid	Board of Education Appoints	Co-ordinate	Mayor appoints Board and has general supervision over all departments. Requires monthly reports	Estimates prepared by School Board subject to action of Board of Estimates. City Council may reduce but not increase	Elementary teachers appointed from graded list. Secondary school teachers appointed by Board generally upon recommendation of Superintendent. No removal until after charges preferred and trial held
Pittsburgh 533,905	Appointed	By Court of Common Pleas	Unpaid	Four-Year Term Board of Education Appoints	Separate Department operating under State Code	No control	Board of Education fixes estimates and levies school tax within statutory limits	Recommends for appointment from eligible lists
Detroit 465,766	Elected	By Wards	Unpaid	Board of Education Appoints	Practically separate	No control except over appropriations	Board of Education submits budget to the Common Council and Board of Estimates for approval	Superintendent recommends to Committee on Teachers and Schools. They in turn recommend to the Board of Education which has full power
Buffalo 423,715 [illegible]	No Board	No Board	No Board	Elected by People	Co-ordinate	Council purchases sites and orders buildings. Has power to select textbooks and courses of study; in practice follows Superintendent's recommendations	The Council and Mayor fix the amount of appropriation	Superintendent's power of appointment from eligible list is absolute. Teachers can be dismissed only after hearing before Mayor
San Francisco 416,912	Appointed	By Mayor	Salary $3,000 Per Year	Elected by People. Is member of Board with vote	Co-ordinate	No control except over appropriations	The Board of Education recommends amount of annual budget to the Board of Supervisors. Statutory limits	Board of Education alone exercises all powers of this nature
Milwaukee 373,857	Elected	At Large	Paid $5 Each Meeting, Limit $300 Per Year	Three-Year Term Board of Education Appoints	Co-ordinate	No control	The Board of School Directors makes up the budget within statutory limits	That of recommendation only
Cincinnati 363,591	Elected	At Large	Unpaid	Board of Education Appoints	Separate	No control	Board of Education submits estimates within statutory limits. Budget Commission, composed of Mayor, City Solicitor and County Auditor, levy the tax	Superintendent appoints; Board confirms. Superintendent may dismiss for cause, but teacher has right of appeal to Board
Newark 347,469	Appointed	By Mayor	Unpaid	Board of Education Appoints	Separate	Mayor appoints Board; is Chairman of Board of Estimate	Board of Education makes up budget, which must be approved by the Board of Estimate, composed of the Mayor, two members of the Common Council and two members of the Board of Education	Superintendent nominates and recommends dismissals
Los Angeles 319,198	Elected	At Large	Paid $10 Each Meeting, Limit $50 Per Month	Board of Education Appoints	Almost entirely separate	No control	State and County supply large portion of funds. Board of Education submits estimates to County Board of Supervisors which levies school tax within statutory limits for balance	Teachers are appointed in order from eligible list. Dismissals are made on recommendation of the Superintendents and the Teachers and Schools Committee
Minneapolis 301,408	Elected	At Large	Unpaid	Board of Education Appoints	Operates under a separate Charter	No control	Budget is made by Board of Tax Levy, composed of Mayor, City Comptroller, Chairman of Ways and Means Committee and Board of County Commissioners, County Auditor and Presidents of Board of Education and Park Board	Superintendent only makes recommendations
Kansas City 248,381	Elected	At Large	Unpaid	Board of Education Appoints	Absolutely separate	Municipal government has no control over the schools	Board of Education makes up the budget within statutory limits; above this limit proposition must be submitted to qualified voters of the District	Board of Directors has power of appointment. Board cannot dismiss during life of the yearly contract except for improper conduct. Contracts may be forfeited under certain conditions
Seattle 237,194	Elected	At Large	Unpaid	Board of Education Appoints	Separate	No control	Board of Education submits estimates within statutory limits to Board of County Commissioners which levies and collects the tax	Superintendent recommends; Board approves
Indianapolis 233,650	Elected	At Large	Unpaid	Four-Year Term Board of Education Appoints	Separate	No control	Annual budget is prepared by Business Director and submitted for approval by Board of Education. Statutory limits	Superintendent has power of appointment and dismissal. A teacher has the right of appeal to the Board
Providence 224,326	Elected**	By Wards	Unpaid	Board of Education** Appoints	Its power to expend available money and to manage the school system is absolute	No control except over appropriations. Mayor is ex-officio a member of the School Board**	Board submits estimates to City Council which decides amount of appropriation	Superintendent nominates; Board elects. Superintendent has power to dismiss for cause
Louisville 223,928	Elected	At Large	Unpaid	Board of Education Appoints	Operating under a separate and distinct charter	No control	City Council must by law levy a school tax of not less than 36 cents nor more than 40 cents on each $100 valuation	Superintendent nominates; Board may refuse to confirm. If Superintendent refuses to nominate, the only recourse of the Board would be to dismiss Superintendent, ⅔ vote necessary
Rochester 218,149	Elected	At Large	Salary $1,000 Per Year	Board of Education Appoints	Separate	No control except in case of appropriations over statutory limit	City Charter allows minimum of $[illegible] for each child registered. City administration always liberal in granting appropriations above that amount	Superintendent nominates; Board confirms
Columbus 181,511	Elected	At Large	Unpaid	Board of Education Appoints	Public School System separate. Not co-extensive with City limits	No control whatever	Board of Education makes up budget which is submitted to the Budget Commission of the County which makes tax levy within statutory limits	Superintendent appoints all teachers subject to approval of Board. Board can only appoint an "old" teacher not recommended by Superintendent by ⅔ vote of entire Board. Dismissal of teachers entirely in hands of Superintendent
Toledo 168,497	Elected	At Large	Unpaid	Board of Education Appoints	Separate Corporation wholly independent	No control	Board of Education prepares budget within statutory limits and submits same to Budget Commission	Superintendent appoints; Board confirms. Superintendent may dismiss but teacher may demand trial before the Board

* Italics, statements are direct quotations from constitutions

** Legally known as School Committee

NEWS NOTES

Research Committee Public School League, Buffalo, N. Y. Public School Administration in the Twenty-four Principal Non-Commission Governed Cities of the United States, and Public School Administration in the Twenty-four Principal Commission Governed Cities of the United States. Compiled by the Public School League of Buffalo. Buffalo, N. Y., 1915.

THE two interesting accompanying charts have been compiled recently by the Public School League of Buffalo for the twenty-four principal commission governed cities and the twenty-four principal non-commission governed cities, respectively, of the United States, showing for each eight important features of school administration, such as method of selection of the board of education, the powers of the superintendent, etc.

As will be noted, a large and practically equal majority of cities of both types have unpaid boards of education, elected at large. With only two exceptions in each group of cities, the board of education appoints the superintendent of schools, for terms ranging from one to six years.

In only four cities of each class is the public school system practically and legally co-ordinate with the other departments of city government. In the large majority of cases it is absolutely separate.

In very few cities has the mayor or city council any control over the schools. In a number of non-commissioned cities the mayor appoints the board, while in about 25% of the cities of both classes the mayor or council has control over appropriations, and, to a less extent, over school expenditure. In the majority of all cities considered the board of education prepares its own budget, within statutory limits; but this budget is usually subject to the approval of the mayor, the city council, or a board of estimate.

The powers of the superintendent over appointment and dismissal are in nearly all cases limited legally to recommendations to the board. In some cases the superintendent appoints from graded lists or from teachers whose eligibility is governed entirely by statute; but in very few cities may he legally exercise his judgment in constituting and controlling his teaching force. This is a point of particular interest just now in the light of recent agitation and some recent city legislation aimed at securing larger powers for the superintendent.

The most noticeable thing that is apparent from these two charts is the striking similarity between commission, and non-commission, governed cities in practically all of the eight points considered. In the sole instance of the appointment of the board of education by the mayor in non-commission governed cities is there a striking contrast, and this is a feature of only five cities of this group.

Montessori at Stevens Point, Wisconsin

EDUCATORS throughout the Middle West will be interested in the information that Dr. Maria Montessori will deliver her next course of lectures, beginning January 24, 1916, at Stevens Point, Wisconsin, under the auspices of the State Normal School. The lectures on her system of education, with practical illustrations, with children using her exercises and apparatus, will be held in the auditorium after the regular school hours. In addition to these lectures by Dr. Montessori herself, others will be given by her assistants, and a demonstration school will be in operation for the purposes of study and observation under her personal supervision. The course will continue for a term of six months.

The Montessori system is based upon the following psychological and pedagogical principles:

1. The attention of the child, focused upon any exterior object or fact, provokes in the child a widespread and spontaneous activity of its entire personality.

2. This activity, known in the Montessori phraseology as the "polarization" of attention, always obtains in connection with certain exterior conditions, to wit: environment, apparatus and exercises that can be definitely established by a teacher of insight and skill. Initial and well planned steps in this direction for children of from three to six years of age constitute one of the great contributions of Dr. Montessori. This is to be followed soon by such organization for children of from six to ten.

3. The problem of education is solved when the problem of controlling the attention of the child is wholesomely solved, It is a matter of observation and knowledge that the child's spontaneous

activity endures, with the minimum of fatigue, as well as the maximum of growth, until mastery of the work in hand is attained; whereas all specially stimulated attention from without, soon abates, fatigues the child, and robs him of a divine hertiage—the power of initiative—a truism recognized by both educators and parents.

4. That system of education which succeeds, through exercise, in bringing this faculty to its highest degree of efficiency, elevating the individual to successively higher planes, is the ideal and standard system.

5. The choice of objects that will interest, hold and develop the attention of the child depends upon the character of the reactions of the child. The ability to choose such objects is to know the means whereby the child makes progress. It is axiomatic and must never be forgotten by the teacher, that all instructions must be for the development of the child's physical, intellectual and moral nature, and that he grows only through his self-activity.

6. While the old pedagogy emphasized and idealized the conception that the personality is "receptive," the new pedagogy presupposes and works on the principle of an "active personality." From such a system of procedure is evolved a school in which children work for, by and of themselves—that is, they are free.

7. The Montessori system is characterized at the start by giving to children individual work, in being self-educative, and in the teacher's remaining in the back ground as a directing rather than a dominating factor.

8. It places greater emphasis upon the principle of personal development, insists upon the more direct and effective training of the senses—now much neglected; it trains for actual life activities, and affords direct preparation for the school arts of reading, writing and arithmetic.

The Stevens Point Normal School extends cordial invitation to all interested in this effort to make visitation while the course is in progress.

JOHN F. SIMS,
President, Stevens Point Normal School.

Educ

Harvard University,
Dept. of Education Library

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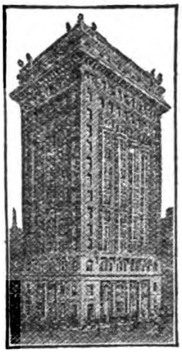

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VOLUME II FEBRUARY, 1916 NUMBER 2

EDUCATIONAL ADMINISTRATION AND SUPERVISION

Junior High School Administration*

Charles Hughes Johnston

Professor of Secondary Education, University of Illinois

OUR problem as I see it is so vital, its issues so urgent, its aspects so diverse that it is difficult even to state the topic of our discussion without revealing a personal bias and also a recognizable educational philosophy. If one say "intermediate school" some see here a deplorable conservatism and a bald and uninteresting outlook. The name is, really, more vital than it may seem, and the greater and greater relative frequency with which one hears the term "junior high school" actually indicates the trend of the movement. In this discussion we may, if we can, disregard any ulterior designs in the use of the name "junior high school." We may go further and disclaim other now natural assumptions as to the essential features of the reorganization we are all discussing.

Those actively engaged in and committed to the "reorganization" plan face, of course, the problems of how many administrative units (of separate principals and teachers and students) we may best make; and the more perplexing one, of how many curriculums within the different cycles (or units) must be organized and administered for our different groups of pupils. We may, for example, finally divide, as Superintendent Young of Chicago thinks possibly desirable, the *first* six years and kindergarten into *two* program and curriculum units, and the *last* six years of public education also into *two*; thus having four cycles in our twelve year public school curriculum offerings. We may again, despite present strong indications, revert largely to the "two-division" plan of precious and of recent memory. Thirdly, we may, as seems most likely at the present time, increasingly accept the three unit division or *cycle* arrangements, i. e.: elementary, junior-high, senior-high. Even if the three-division scheme prove most acceptable with reference to matters of purely administrative machinery, we have still the major question of *where* (in terms of school age) to differentiate curriculums in the three newly divided stages of public education, and the question of *degrees of differentiation* in the two upper cycles. Here again neither the name nor the types of curriculums, nor the desirable curriculum affiliations and combinations are even near settlement. Again those possible 3 or 4 *type variations* of the 6-3-3 plan itself, which will be conditioned by size of city and character of school system, are but vaguely conceived, are being experimented with under only partially satisfactory conditions for scientific testing for their special merits, and are as yet nowhere clearly and finally determined. All this is merely to say that the term "reorganization" refers to all the newly proposed cycle divisions of the public school by years—elementary, upper-elementary, lower-secondary, upper-secondary. (See North Central Association's characterization of the three stages in the latest Annual Report, 1914.)

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* Read before the High School Conference, University of Illinois, Nov. 19, 1915.

Now it happens that most critical attention, for reasons already thrashed over and commonly accepted, is now focussed upon the *middle cycle.* The boundaries of this middle ground are not settled. We shall refer in this discussion therefore for obvious reasons only incidentally to the reorganization problems of the first six years or to those of the last 3 years (4 or 5 if we include the junior college), and we shall deal chiefly with the reorganization affecting the 7th, 8th, and 9th years. We shall all grant that no part of the whole educational system, public or private, will remain unaffected. Nowhere at present also is the full meaning of the movement now upon us fully understood. Everywhere schoolmen feel sure there is much of profound significance beneath the surface.

Once—in 1893, for example—our secondary education leaders may have, as they professed they did, faced a relatively clear and simple set of high school problems. The historic *Committee of Ten* were easily unanimous in their hearty and confident endorse-ments of their famous program for American secondary education, which they so effectively launched. They were proud of their agreeable unanimity! They were mostly interested in subject matter, content of courses, providing something to teach, and at least one method of doing it. No other fundamental purposes of real life and of destiny of nations figured for them in any specific way.

The N. E. A. Committee on Articulation of School and College inherited this somewhat narrow though definite problem, but brought to it a spirit of adjustment quite admirable, if a bit cocky and defiant. They sacrilegiously denied the sole principle of unity of the older committee of eminent educational authorities. This second report is now the most influential single piece of literature in existence in furnishing a model high school curriculum for those inclined to vary the traditional, single, "college preparatory" type. The chief interest, however, of this energetic second national committee seems to an outsider, to have been in the questions of *educational values of particular subjects* and in *ingenious manipulations* by administrative devices of their (assumed necessary) single but new type of high school curriculum. They looked for a new flexibility and advocated a method of manipulating administrative machinery. They instituted no fundamental re-examination of all subject matter with fearless reference chiefly to the more heterogeneous groups now in high school and of those still more varied and urgently needy groups who are not, but who should be in a high school of some type. Essentially they sought to lighten the yoke of college entrance and to liberalize the college entrance principle, rather than to strike right out and construct different kinds of high school curriculums for the socially, economically, and psychologically distinguishable groups of actual or possible high school students. The North Central Association and similar interstate standardizing agencies in other sections of the country have had for years committees on subject matter who worked always from the point of view above—*the unit-making possibility of it all.*

Three years ago this North Central Association appointed also a standing committee on administrative problems of high school reorganization. Last year the two committees found that they could not keep off each other's preserves. So they were consolidated into one committee—the *Committee of Fifteen on Reorganization of Secondary Education and on the Definition of a Unit.* They, too, are being driven, as was the National Commission, to invent a philosophy of secondary education. Now increasingly everywhere the broadening administrative and deepening pedagogical questions are seen to be interrelated. So the National Commission hopes something will come out of the coöperative work of its twelve sub-committees of liberal specialists in subject matter (with their achieved administrative common sense), all under a central "Reviewing Committee," whose function is to harmonize and integrate the results of the various committees into a unified program of development.*

We here are similarly presenting in juxtaposition the administrative features and problems and the pedagogics of the special subject matters. If we can bring to bear upon the problem administrative common sense and harmoniously interrelated subject matters and get them formulated into a purely educational proposal we may reasonably hope to grasp what we are at liberty to call "The Junior High School Idea." We should give it a spirit as a whole, we should combine administrative and pedagogical considerations into a platform of reform in school work, and we should so conceive this junior school idea that its underlying ideals will appear to affect the interests of all grades of public school work. In short neither skillful administrative manipulation nor special pedagogical reform in more or less unrelated school subjects can convey to one any meaning of "reorganization" worth discussing. Let us for a time forget the corresponding but indirect effects of reorganization upon the six elementary years and upon the senior high school and junior college and let us consider the junior school.

I shall attempt to present the movement itself, to specify distinguishable problems and place them in their proper groupings, sense the relative proportions of these different groups of new problems, suggest probable solutions where practice and educational principles seem to furnish any assuring evidence, note the trends of developments in different types of school systems and different communities—all the while pointing out in particular (very easy!) what we do not know about the junior high school.

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* Since this article was written the Commission has appointed a special subcommittee of Administration of Secondary Education also.

I shall understand by "administrative problems" both those which are of a profoundly social nature, relating directly to the demands of democracy; the more technical ones of a financial sort; and the strictly professional ones, such as curriculum organization and the various new features of school management supposed to be essential accessories of the new organization—type of principal and teacher, new text books, new relation to college (new units, etc.), vocational guidance and supervised study. "Administrative problems" should include also certain phases of the selection and educational organization of *content of courses.*

Administration, thus comprehensively and spiritually interpreted, is in a sense the most vital feature of any old or new organization. From one point of view it outranks even good but isolated uncoöperative teaching of special subjects. It is the *spirit of the system* which can taint or can inspire all the coöperative work of the school. Now the spirit of our reorganization must be governed by this clear *philosophy of educational administration.* Our particular question is, "Can this essential spirit of administration get its best expression in new units of internal government, new curriculum units, new types of school activities, new kinds of group consciousness and group exercise, new school relationships—all typical of the associations which its advocates connect with the junior school idea?" In other words, can we interpret the junior high school as an outward manifestation of a sound, new philosophy of educational administration? That it is a manifestation of some sort of philosophy of school administration we are sure. Why do its advocates associate it with new ideas of promotion, new analyses (social, economic, and psychological) of its pupil populations, new schemes of all sorts for guidance (educational, moral, temperamental), new psychological characterizations of types, new school year, new school day, "class period"? It has somehow set on fire a sort of educational imagination which cannot be checked. The particular plan one proposes may be debatable; yet its agitation brings results. Its advocacy is a means to an end. The Junior high school is no fool-proof device. Suppose it to be only a fruitful pretext; still schoolmen are using it in order purposely and in the spirit of progress to "confront themselves with a condition demanding consummate knowledge and skill in both teacher and supervisor."

Superintendent Study, of Neodesha, after three years of experiment and successful experience, thus in substance puts his experience into advice regarding the five fundamental steps to take if one moves at all in this new direction—that of organizing a junior high school.

1. The first requisite for success is self-preparation of the superintendent himself. He must hold a reasoned position backed up with contagious enthusiasm, he must be patient, tactful, and willing to wait for results, and he must know how to present his cause as well as know the formal technical arguments themselves.

2. The school board must be educated thoroughly before the reorganization step is taken. Being a sole promoter is fatal and wrong in principle. This sort of an educational step imposes a responsibility which the board must share.

3. Likewise the principals and the teachers must understand the aims and purposes of the new curriculums and methods of instruction, and help create the new atmosphere of success. Many superintendents have forgotten this democratic necessity, and their lieutenants have not rallied around them. As Superintendent Horn of Houston reports, it is very difficult to get the "*junior high school idea*" into their minds.

4. There is another factor: the parents and the community. The possible values of the new plan must be patiently and clearly and constantly taught them through press and platform and pulpit, and informally on all sorts of social occasions. This step is the occasion par excellence for educational idealization on the part of the entire community.

Study means that if you believe in the new organization scheme at all you must believe in it *hard*. He has I think the only legitimate point of view and has well defined the only excusable attitude for those who venture out upon these waters. He has estimated the essential steps. These, rather than merely mechanical equipment or a sort of standardized instructional minimum or type of building or kind of textbooks or length of class period, are the real prerequisites. Before we are through with "reorganizing," of course, all these matters (*externa*, as the Germans call them) will be affected; but no school man should hesitate to adopt those characteristic features of the junior high school which will make his school system more effective, even if he cannot at first conform to somebody's arbitrary definition of such an organization.

Among these specific steps there is no one order of procedure. Some schoolmen begin with the hardest problem first, that of curriculum reorganization and partial differentiation; others find it better to begin with some extra-curriculum feature such as vocational guidance systems, schemes for study and record of individual differences, supervised study, departmentalism, the mere addition of new subjects, the formation of slow-moving and fast-moving groups, or even social centre activities. These are details. What is useful to keep in mind is that complete reorganization cannot be accomplished at once, and that one cannot *merely wait* till a professional standardizer tells him he can launch the full-fledged junior high school machinery. All the good things which characterize systems which have acquired these combined functions through some years of practice and adjustment must be bought with the price aggressive schoolmen are accustomed to pay for such high outcomes.

As this discussion is concerned primarily with those matters of administrative character as distinguished from others purely educational and even pedagogical, it may be well at this point to go into more detail regarding definite questions. Let us enumerate those typically *non-instructional administrative problems.*

Shall there be an individuality about the junior high school building? Los Angeles, Kansas City (Kansas), Trenton, N. J.; Houston, Texas; Neodesha, Kansas; MacMinnville, Oregon, (all uniquely situated) furnish us hints. Houston reports: "Our junior high school buildings have been admirably planned for the purposes outlined above (junior high school purposes). Especially are they adapted to the policy of emphasizing industrial education and physical education. They have a much greater proportion of their space given to shops, kitchens, laboratories, gymnasiums, and assembly rooms than is ordinarily found in school buildings. In our South End building in particular it would have been possible to erect a building to accommodate at least 50% more students with the $250,000 which the building cost, in addition to the grounds and equipment. This would have been done, however, by adding more classrooms at the expense of shops, laboratories, etc." I wish he had added "special libraries," as he could have done. He has a *real junior high school library*. He has also a swimming pool. Other building features are being tested in the other places named.

Where shall the directive and administrative authority be? For a long time this will be a debatable question and already some heat and strong opinion are in evidence. We are here confronted with a fresh situation in which, free from traditional prejudice, we have a fine opportunity for establishing an adjustment of administrative and supervisory relationships and coöperations which is impossible under the old system. For obvious reasons one hesitates to cite examples.

What subjects are to be offered under these new conditions? I can only reflect briefly typical opinion and special practice.

The report of the committee on the Reorganization of the Public School System of Wisconsin says in substance: English, with larger emphasis upon literature suitable for adolescents, elementary mathematics, including the simpler elements of observational geometry and algebra of the equation, general science (or elementary science)—all three interlocked with history and geography and taught with reference to later advanced sequentially related work; constructive work in all the general manual training of the public school, in domestic science, drawing and agriculture; systematic exercise in the form of music and physical education. The *additional variables* of this extended program must be selected with a view to pursuing it for two years, giving it a thorough try-out and the pupil one also. Other systems make more extensive inroads into newer fields, differentiating the work in such fields as civics, commercial branches, mathematics, etc. Solvay, N. Y., is a good example to be cited later. So much for the mere addition of subjects and courses.

What measure of curriculum differentiation shall there be? Some so-called junior high schools have little if any and rest their claim to their title upon extra-instructional features. Leavitt and Brown, in their new book just from the press ("Prevocational Education in the Public Schools"), advocate two clearly distinctive curriculums, and base their suggestion upon the practice in a few selected schools. In addition to this sort of differentiation, leading to *different sorts of content for different pupil groups*, we have also the kind of differentiation determined by the presence of "accelerant groups" and "slow-moving" groups in the same subject. This is cited by Briggs (Annual Report of U. S. Commissioner of Education, 1914) as one of the most important reasons for a junior high school. Given these distinguishable groups we have three different methods of administration with reference to them alone—obviously a new *educational* possibility opened up by the movement.

What shall be the modifications of subjects because of their different "curriculum settings"? One junior high school principal writes: "The work as we give it is divided into six separate curriculums. While often the same subjects may be required in the different curriculums, there may be considerable difference between the subject as given in one curriculum and the same subject as given in another curriculum." English, in other words, means less technical grammar than in the old elementary single curriculum, English in the domestic, practical arts and pre-vocational curriculums means no technical grammar at all. History in the academic and commercial curriculum is like the traditional courses; in the domestic, practical arts, and vocational, it places much more emphasis upon inventions and commercial history. Arithmetic in the academic early in the course treats commercial applications of percentage as algebra, and treats their mensuration as geometry; the commercial curriculum devotes all the time to commercial applications, works more narrowly to attain a trade standard of accuracy, and speed in computation (sacrificing something of the purely mathematical exercise). So it is with the drawing work and the science work. He goes on to explain how the academic group takes German five times a week, while the commercial is taking typewriting two years and bookkeeping one, and the household science pupils are having two double periods each in cooking and in sewing, practical arts pupils four double periods in shop and one double period in shop drawing, and the vocational pupils, their longer school day and school year in practical work. All "academic" boys and girls get some of the shop work or the cooking and sewing.

What entrance requirement to the junior high school? All over age from the now better, more economically organized six-year elementary school.

What shall be the entrance requirements to the senior high school? Superintendent Spaulding of Minneapolis says age and maturity, not scholastic attainment; not ability to do the work offered in the "single curriculum" senior high school, but ability to do something different from the babies of the first six grades and something which the modern upper high school must, if it does not now, offer. Superintendent Maxwell would have no "scholastic entrance requirement" for the group who are destined for the vocational work of the junior high school but he would add a more rigid scholastic test for the others—a compromise. Of the three practices, I like Spaulding's.

How record credits? To be dogmatic: by the semester hour plan, as in college, because of the desirable varying of number of class-periods for courses in order to assist in meeting the situation arising from "accelerant classes," new features, etc.

How shall the same subject (*German or Latin*) be different in form and in unit of credit value when given in junior and in senior high school? (See Annual Report of North Central Association, Committee on Definition of a Unit—1914). This solution is tentative but probably in the right direction.

What unique systems of advice and guidance are especially suitable for junior high schools? (See Somerville, Mass., Superintendent C. S. Clark's Annual Report, 1914.)

What is the most practical system of card-index of individual traits, etc., and what can we do with all this personal information of pupils, once we get it? Experiments are numerous, but as yet no single system stands out from the others.

What are the qualifications of the "home teacher," "adviser teacher," "mother-teacher," in regard to preventing impossible assignments (a danger of all junior high schools at first), in dealing with absences, discipline, etc.? A new functionary is here being developed. (See McMinnville, Oregon; Houston, Texas; Decatur and Urbana, Ill., et. al.)

What is junior high school laboratory work? Individual experimentation, or wholly demonstrational? and in what subjects practicable? (See N. E. A. formulation of "Project." Report of Committee on General Science, February, 1915). This is still a controversial issue in which neither side has as yet touched bottom.

What is a junior high school library? (See Springfield, Ill.; Houston, Texas; Decatur, Ill., for reports showing widely differing facilities).

What is the proper class period, number of periods per day, per week, proper division for study and for recitation, variation with subjects? (Variation here is indicative of most thorough experimentation with many different combinations of features.)

Can we standardize the home study for this cycle as the French do? and can we administer our own standards? (No data of value as proof, but much of "suggestive" value.)

What is practicable and what desirable regarding departmentalism? (See Reports from Rochester and Solvay, N. Y., and H. W. Josselyn's Survey of Accredited Schools of Kansas for variations of so-called "departmentalism" itself.)

What shall be the number of studies taken at one time by the pupil in junior high school, and how many times per week? (See North Central Association Report, 1914, which appears here to be in direct opposition to the central idea of exploitation and exploration of interests and aptitudes of pupils partly by means of a greater variety and larger number of courses. (See also the "concentration" method of administration of curriculums in Manual Training High School, Indianapolis.)

How standardize the instruction hours per teacher per week? (Extreme variation in practice.)

Shall junior high school teachers be college graduates? (This is evidently a common ideal.)

What is a reasonable salary scale as compared with senior high school teachers? (Some advocate same scale, some even a higher.)

May we expect an interchange of teaching service and of supervision, as well as of apparatus and of library facilities? (Different systems will soon be able to contribute pertinent experience here.)

What is the minimum number of pupils essential to the ideal junior high school organization? Merely enough for full classes, for sections in laboratories and for special libraries; enough to justify special auditorium exercises for credit; enough for accelerant groups; enough to reduce the per capita costs to what figure? (See Holland's Report of Louisville Public Schools, 1913, 14, and H. W. Josselyn, in Johnston's *The Modern High School,* Chap. V.)

As to arguments I shall not rehash them now. They are familiar to all who read modern educational literature or even to those who merely attend educational meetings. Each side urges the cause of democracy itself as the first argument, and from this goes forth into "castes in society," and "tampering with curriculums," down to mere matters of administrative device. (See enumeration of these arguments by the writer in Educational Administration and Supervision, March, 1915).

The extent of the movement is now impressive. There are at least six states which have "resolved" and taken other steps. Many teachers associations, including the National Education Association and some large universities, including University of Michigan, and the University of Chicago, have adjusted temporarily their entrance requirements, and the North Central Association has twice announced its intention to propose some more fundamental method of articulation. The National Commission of Secondary Education and the Department of Superintendence are committed. At the present time a large number of schools in the North Central territory alone report themselves as unorthodox, most of them being clearly "intentional" junior high schools. A larger number report their intention to reorganize in the near future. Douglass in 1913 was in communication with 135 such schools. Briggs, in the Annual Commissioner's Report 1914, cites 167 cities as having one or more junior schools and elsewhere speaks of being in communication with 193, and says that 222 others had declared their plans formed for such a step. The North Central territory contains the same impressive proportion of these intending the reform. Doubtless many of these are not full-fledged junior high schools. The more interesting thing is that they *are* such in what to them is *some essential feature* and *in their intention* of gradually incorporating others. I believe their spirit is a good one—launch right out when the preparations above specified are made, and do the thing which seems best to start upon. Local conditions will determine which ones of all those enumerated steps should come first.

As to proofs we have at present only "case records" of successes of individual systems—no appraisal of large numbers of systems with reference to items of improvement in common measured under comparable conditions. Furthermore, we have no reported failures or "reversions" to the older type.

Thus far we have mentioned the strictly administrative problems largely external to the curriculum differentiations themselves. The policy of *curriculum differentiation and specialized trainings* in the senior high school scarcely longer admits of argument. It is the great issue in the junior high school. There is a sense in which curriculum differentiation at this junior school stage is questionable. Certainly few would advocate pigeonholing all the pupils of these grades by absolute segregation with specialized methods and courses and distinctive subjects. There is another sort of curriculum differentiation, however, which is basic to the very junior high school idea itself. It may be progressively illustrated by Richmond, Indiana; Trenton, N. J.; and Solvay, N. Y.; and by certain extreme vocational curriculums in Massachusetts and New York.

We may say that the "prevocational issue" appears to be the most prominent reason or pretext for junior high school curriculum differentiation. Briggs calls attention to the fact that there were only 57 of the 167 junior high schools which he examined which differentiate their curriculums on some other than a so-called vocational basis. This term, "prevocational," appears to be an ill-chosen one to cover, as it does, all the curriculum variations from the traditional academic curriculum. We may distinguish, as regards their attitude toward prevocational work, the following as typical of curriculum makers for junior high schools:

1. The *traditional academicist* who will have none of it.
2. The average fair schoolman who will make—often from necessity—the gingerly solution of adding 2 subjects—manual training and domestic science.
3. The "Cole type" (See Cole, Industrial Education in the Elementary School) who will rejuvenate the academic subjects a bit and add a new subject which is called "*Industry*" which will function in giving "industrial insight" and "appreciation of labor."
4. The Indiana spiral plan of a sort of academic organization in much detail of the state required vocational subjects in the upper grades to be followed by elaboration of same material in high school.
5. The state aided vocational work (specialized and intensive) for selected junior high school boys and girls in New York, New Jersey, Pennsylvania, Massachusetts.

6. There is what we may call the most recent—Leavitt and Brown's —"new general prevocational education" for the "prevocational type" of boy and girl. It does not contemplate any new names for school subjects, but does propose *entirely new content* for this special, psychologically different group. (See *Prevocational Education in the Public Schools.*)

7. There is the Solvay "five-curriculum" scheme, with the third "readjustment" year for those who change their curriculum after the two years' try-out.

8. The "Ettinger cross-section curriculum scheme" of New York City is both interesting as an offered substitute for the Gary system and for being now tried out in some New York schools.

9. Then lastly we have the Gary plan, and now numerous variations of it—a scheme of such fundamentally and profoundly reorganized materials and methods that even curriculum differentiation is not necessary—since there is left no academic curriculum from which to differentiate.

The junior high school has before it all these models of differentiation.

For whom definitely are all these differentiations of curriculums devised? Leavitt is an illustration of an advocate of curriculum differentiation on the ground of *psychologically different types of junior high school pupils*—the "scholastic type" and the "prevocational type." His differentiated curriculum is not for the "thousands and thousands who succeed in school work now"—but for the overage, or retarded. Even some of these are not "serious," unless they have acquired a "chronic dislike for school." One suspects that Leavitt is after all, however, thinking of a large number of pupils, not only of those overage in the overburdened first six grades, but also of numbers of those in their grade who have not been gripped by academic interests. One suspects too (and hopes!) that Mr. Leavitt is visioning some final and fundamental reorganization of all public school work of these grades. Solvay makes its "five-division" differentiation with "social needs as the curriculum clue." (See p. 55 of Superintendent's 1914 Report.) The Ayres method of analysis of pupils' "career probabilities" as used for the "readjustment year" is employed to correct errors in curriculum placement. The "Ettinger Plan" is preceded by parent-teacher conference and correspondence. These are but a few of the plans for curriculum differentiations *now being achieved* in the junior high school period. All bear close relation to the next problem, that of the *content of the courses constituting the curriculums.*

The "junior high school idea" implies the earnest and thoroughgoing examination of all subject matter with a view to its definite aims and values. The further work of the National Society for the Study of Education in following its work (Fourteenth Year-book) in some of the traditional elementary subjects by an examination into the new subjects and courses as they vary with their "*curriculum settings*" in junior high schools, will be awaited with interest.

The increasing number of Junior High School Manuals now being published contain quite elaborately and carefully worked out "units of instruction" within the newly established junior high school courses. This is, of course, indicative of the most profound and far-reaching phase of the whole movement. Indeed, the movement itself might be said to exist and to gather its momentum in order thus to eventuate and culminate in a thoroughly reorganized educational aim, content, and method. This paper has sought chiefly to suggest the administrative instrumentality which will likely further this widespread spirit of public school reform.

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[*] Most of the references to particular junior high schools in the text above were chosen for local reasons or because of recent correspondence freshly in mind. No attempt was made to include even the most prominent institutions of this type, such as Los Angeles, Grand Rapids, Berkeley, Columbus, Boston, Madison, Trenton, Rochester, Evansville, Salt Lake City, Dayton, etc.

Some readers may care to consult the following pamphlets which are new and may probably be secured on request. The list contains discussions and reports of practice upon which in a measure the writer relied in writing the contribution above:

The Junior High School, Board of Education, Neodesha, Kansas, Supt. H. P. Study. (One of the most complete and satisfactory).

High Schools of Michigan, Bulletin 12, 1914. State Supt. Fred L. Keeler, Lansing, Mich. (Junior High School Curriculums recommended for the State.)

The Junior High School, Document 39, 1914. Council of Education, N. J. Calvin L. Kendall, Trenton, N. J. (Arguments pro and con and bibliography).

Superintendent's Reports 1913–14–15, Neodesha, Kansas. Board of Education.

Superintendent's Report, Boston, 1914.

Superintendent's Report, Lewiston, Idaho, 1914.

Superintendent's Report, Quincy, Ill., 1915.

Superintendent's Report, Paris, Ill., 1915.

Superintendent's Report, Somerville, Mass., 1914. Chas. S. Clark. (See especially Junior High School Organization and also section of System of Vocational Guidance).

Bulletin 9, California State Board of Education, New Laws Relating to High and Intermediate Schools, July, 1915.

Report of Commissioner of Secondary Schools, Will C. Wood. California State Board of Education, 1914.

Bulletin 6, Wisconsin State Board of Industrial Education (Manual Arts in Junior High Schools). F. D. Crawshaw. Publ. by the Board, Madison, Wis., 1912.

Report of Superintendent of Schools, Solvay, New York. P. W. L. Cox, 1914–15. (Perhaps the most valuable discussion of actual practice and the most helpful explanation of organization and of administration in the lot.)

Junior High Schools in Houston. Supt. P. W. Horn, Elementary School Journal, September, 1915. (See also his latest Superintendent's Report.)

The Feasibility of the Junior High School in a Small City. Pamphlet published privately by Superintendent W. R. Rutherford, MacMinnville, Oregon. (Very suggestive for superintendents of small systems contemplating reorganization.)

The Present Status of the Junior High School. A. A. Douglass, Reprint from the Pedagogical Seminary, June, 1915. (Very valuable, containing lists of schools operating under the reorganized system and a good account of curriculum and "course" changes.)

Bulletin 9, University of Michigan, September, 1915. The Subject Matter and Administration of the 6–3–3 Plan of Secondary Schools. Calvin O. Davis, Ann Arbor, Mich. (One of the most valuable and practical in the lot. The author always follows his discussion of the principle involved with actual specific advice to school administrators regarding the "next step." This pamphlet should be in the hands of all who are contemplating immediate reorganization.)

A Report of the Organization and Extension of Pre-Vocational Training in Elementary Schools, 7th, 8th, and 9th years. W. L. Ettinger, Associate Superintendent of Schools, New York City, 1915, Department of Education, N. Y. City. (This should be consulted to understand what is referred to above as "The Ettinger Cross-Section Scheme of Curriculum Differentiation," as well as because it is in its own right most interesting and ingenious.)

Reprint of Chapter VI, Volume I, Bureau of Education, U. S. Commissioner's Annual Report, 1914. Thos. R. Briggs, Secondary Education. (Valuable, most of the discussion centering around junior high schools, and representing the author's actual impressions gained from an extended tour of the country during which he visited most of the important junior high schools themselves.)

Bulletin Number 38, U. S. Bureau of Education, 1913. Economy of Time in Education.

Bulletin Number 41, U. S. Bureau of Education, 1913. Reorganization of Education.

In addition to the pamphlets above the writer, in his particular discussion of the administrative aspects of this large question, has found the following easily accessible reference useful:

Leavitt and Brown's Prevocational Education in the Public Schools, 1915 (entire volume), Leavitt's Examples of Industrial Education, (p. 88 ff.), De Garmo's Principles of Secondary Education (Revised Edition, Vol. I, p. 324 ff.), Snedden's Educational Readjustment (Chapters VI and VII), Johnston's High School Education (Chapter IV) and his The Modern High School (Chapter V), and *articles* as follows: *Educational Administration and Supervision*, Volume I, pp. 29–49; 165–172; 327–329; 330–331; 567–576: *School Review*, Dec., 1912, March, 1913, April, 1913, January, 1915, May, 1915: *Educational Review*, March, 1914: *School Board Journal*, December, 1913, and March, 1914: *Elementary School Teacher*, February, and following issues 1913: *Journal of Education* (Symposium by large number of actual school administrators for and against), October 14, 1915. *School Surveys* (See especially Portland, Butte, and Springfield, Ill., city surveys and Vermont Survey for state survey—all containing valuable discussions and recommendations regarding junior high school organization.)

Omitting Arithmetic in the First Year

Joseph S. Taylor
District Superintendent of Schools, New York

1. *Opinion of Teachers.*—The experiment was conducted in P. S. 16, The Bronx, during the years 1913–1915, under the direction of Mr. Elijah Jenks, Jr., the principal, and Miss Hannah E. Harris, his assistant to the principal. Mr. Jenks reports that, in talking over with the teachers of the first and second years the results of the experiment herewith submitted, the opinion was unanimous that arithmetic work should be omitted from Grade 1A. There was, however, a difference of opinion as to whether better results might not have been obtained if the arithmetic had been begun in 1B.

In order to compare results and note the advantages, if any, of beginning arithmetic in 1B rather than 2A, the principal requests permission to continue the experiment along the lines suggested by the teachers, namely: omitting arithmetic (except counting) from Grade 1A and devoting the time so saved to English.

2. *Results of the Experiment.*—Beginning with the two 1A classes which entered school September, 1913, we have taken, with the approval of the City Superintendent, no regular arithmetic work except counting, with the children in the 1A grades. The extra time has been given to the English work. The first two classes upon which the experiment was tried have just completed the 2B grade. They began arithmetic work upon entering the 2A grade, and in twenty weeks they completed 1A and 1B arithmetic work and all of the 2A arithmetic. In the 2B grade this term, they did the regular 2B work in arithmetic. We asked permission to defer the teaching of arithmetic until the second year because Mr. Jenks and Miss Harris believe that we are overburdening children six years of age when we present two distinct and difficult problems at the time, namely: the problem of learning to read and the problem of understanding number relations. They believe that the experiment has been successful because, while the quality and quantity of the reading has improved, the number work has apparently suffered no harm.

(1) *Quality of the Reading.*—It is our opinion that the quality of the reading has improved.

(a) In the first and second year classes the children have greater *power* to read new matter. It is shown in the ability of the 1A and 1B children to read new matter at sight from the blackboard and from simple primers. It is shown by the 2A and 2B children when they are able to read their library books in a way which gives them pleasure. It is also shown in their ability to read children's stories from "Youth's Companion." The latter have been taken as a supplementary reading exercise to test the power to read new matter.

(b) The children have greater fluency in phrasing.

(c) The children have been able to read more difficult matter than formerly and to read it with little assistance. For example, the children in 2A have read from Grimm's Fairy Tales II (Wiltse) and from Free and Treadwell Reader II. These books are generally used in 2B.

In 2B they have read from "Dramatic Stories," which is listed as a fourth-year book. They have read also from Free and Treadwell III, which is generally used in the third year.

Our 1B children last term read Free and Treadwell Reader I at sight. This is generally done by the 2A class.

In our 1A classes the first group children have been able to read at sight portions of the Free and Treadwell Primer and parts of "Folklore and Proverbs." These books are generally used in the 1B class.

(d) The children have a greater and more thorough knowledge of phonetic elements.

(e) The teachers have been able to give more time to story telling, reproduction of stories, and conversation work.

(2) *Quantity of Reading.*—The amount read by the children has been greater. In the following table are shown—

(a) The number of new words mastered by 1A and 1B children.

(b) The number of words read in the basic and supplementary readers.

(c) The amount read to children by teachers.

(d) The time given to reading each week in minutes.

(e) The number of classes involved in the comparisons.

Amount Read in Classes With Number and Classes

Without Number. P. S. 16

(Unit—1000 words)*

	Words	Basic Reader	Supplementary	Total	Read to	Time	Number of classes
			1A Grade				
No arithmetic...	388	6	20	26	28	685	5
With arithmetic.	325	3.8	1.6	7.5	9.1	575	1
			1B Grade				
No arithmetic...	2000	8	43	51	24	718	5
With arithmetic.	980	5	14	19	4	525	2
			2A Grade				
No arithmetic in 1A–1B.......		20	25	45	55	545	3
			2B Grade				
No arithmetic in 1A–1B.......		22	75	97	44	500	2

Translated into words, these figures mean that in 1A the classes without number had twenty per cent. more time for reading than the classes with number. By reason of this they were able to learn nineteen per cent. more new words than the classes with number, to read two and a half times as much text, and to have read to them three times as much matter by the teacher.

In the 1B grade the classes having no number work devoted thirty-six per cent. more time to reading than the classes with arithmetic. They read one hundred sixty-eight per cent. more matter than the classes that had number, and were entertained by five times as much material read by the teacher.

In 1910† I made a study of the amount of reading matter mastered by each of the twenty-three schools then in the 25th and 26th districts. The unit of measure employed was *one thousand words.* In the following table the amount read by the several classes in P. S. 16 with and without number are compared with the averages found in 1910:

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* The unit of reading matter is 1000 words, i. e., 6, 20, 26, 28 in the first line representing 6000, 20,000, 26,000, 28,000 words read.

† See "A Quantitative Study of Reading," *Educational Review*, October, 1911.

Comparison of Amounts Read

Year	1	2	
Quantity	25	59	(23 schools, 1910)
"	26		(P. S. 16, with arithmetic)
"	77	142	(P. S. 16, without arithmetic)

From this we learn that the first year classes in P. S. 16 having arithmetic read during the first year just about the average quantity read by the schools of this district in 1910, while the classes that omitted arithmetic in the first year read about three times as much as the district average during the first and second years.

Comparison of Amounts Read to Children

(Unit—1000 words)

Year	1	2	
Quantity	42	62	(23 schools, 1910)
"	23		(P. S. 16, with arithmetic)
"	52	99	(P. S. 16, without arithmetic)

In the matter of reading to children, the classes with arithmetic in P. S. 16 show about half the district average for 1910, while the classes that omitted arithmetic far exceeded that average.

(3) *The Quantity of Arithmetic.*—The experiment seems to justify the conclusion that arithmetic has suffered no injury for the following reasons:

(a) The 2A class of September, 1914, accomplished the arithmetic of 1A and 1B in ten weeks. They accomplished the 2A work in the second ten weeks of the term. This means that the children have done three terms' number work in six months. When they became the 2B grade, they followed the regular 2B course of study in arithmetic. They have, therefore, done the work of two years in one year.

(b) The present 2A class (February to June, 1915) has a register of 50. This class has accomplished the regular 1A and 1B arithmetic. A group of ten children, working ahead of the others, has also done 2A and 2B arithmetic and will be sent into the 3A grade. These children have gained one term. The extra time given to English in the first year has made the reading easy for these children and they are able to take up the English work of 3A.

(4) *The Quality of Arithmetic.*—We have evidence to prove that the quality of the arithmetic has not suffered.

(a) The teachers of our 2A classes have had less trouble in the actual presentation of the 1A and 1B number work than did the teachers who tried to present these same facts to 1A and 1B classes. We feel that this was accomplished more easily because we presented only *one* difficulty at a time. In the first year, the children had the reading problem. Upon entering the 2A class the reading was no longer a difficult problem. The knowledge gained in the first year enabled the children to understand the wording used by the teachers in simple arithmetical problems. It has been our experience that children often fail in simple problems, not because they do not know the number facts involved, but because they cannot interpret the language in which the facts are expressed. By taking more English in the first year, children have a larger vocabulary and are better able to interpret problems presented in 2A.

The greater maturity of the children makes the presentation of number easier in the second year than in the first. A child who has had a full year's work in English and is accustomed to the ways of school is more mature than one who has just entered the public school.

TESTS

In order that we might have a basis for comparison in number work the following tests were given:

1. The 2A class of February, 1913 (which had the prescribed arithmetic in 1A, 1B, and 2A) was tested in:

(a) The tables of the 1A grade.
(b) The tables of the 1B grade.
(c) Written work of 1A arithmetic.
(d) Written work of 1B arithmetic.
(e) Written work of 2A arithmetic.

2. The two 2A classes of September, 1914, which began arithmetic in 2A and had, therefore, only six months of arithmetic, were given *these same tests.*

3. The 2A class of February, 1915, which had had arithmetic for six months, was given the same tests with the exception of the written test upon 2A work.

4. The two 2B classes of February, 1913 (which had the prescribed arithmetic in 1A, 1B and 2A, 2B) were tested in:

(a) The tables of the 2A grade.
(b) The tables of the 2B grade.
(c) Written work of 2B arithmetic.

5. The two 2B classes of February, 1915, (which had had one year's work in arithmetic) were given *these same tests*.

A comparison of results follows.

Arithmetic Table Per Cent. Grade 2A

Founded upon the same tests given to the four 2A Classes

	2A Class of February, 1913. This class had regular work in 1A, 1B, and 2A grades.	2A Class of September, 1914. Brighter class of grade. In this class 1A, 1B, and 2A work was done in one term.	2A Class of September, 1914. Poorer class of grade. In this class 1A, 1B, and 2A work was done in one term.	2A Class of February, 1915. In this class the 1A and 1B work was accomplished in one term.
+ 1 table.......	92	94	91	98
+ 2 table.......	86	91	94	98
+ 3 table.......	86	91	94	98
+ 10 table.......	92	94	84	100
+ 3 in decades...	86	94	78	84
— 1 table.......	75	88	91	91
— 2 table.......	69	66	78	86
— 3 table.......	58	91	53	73
Column addition..	86	88	69	95
Average........	81	88.5	81.3	91.5
Written Arithmetic				
Test upon 1A work	95	99	94	99
Test upon 1B work	65	91	80	84
Test upon 2A work	58	88	79	Not given
Average	72.6	92.6	84.3	91.5

Arithmetic Table Per Cent. Grade 2B

Founded upon the same test given to the four 2B Classes

	2B Class of February, 1913. This class had *regular* work in 1A, 1B, 2A, and 2B grades.	2B^1 Class of February, 1913. This class had *regular* work in 1A, 1B, 2A, and 2B grades.	2B Class of February, 1915. This class did 1A, 1B, 2A, and 2B Arithmetic in one year.	2B Class of February, 1915. This class did 1A, 1B, 2A, and 2B Arithmetic in one year.
2A Add. table....	84	82	94	93
2A Decimation...	96	92	100	93
2A Subtraction...	82	87	93	89
2A Col. addition...	92	88	82	89
2B Addition......	89	96	94	97
2B Decimation...	89	100	88	86
2B Subtraction...	74	81	88	86
2B Column Add...	82	81	82	79
Average.......	86	88.4	91.4	90
		Written Arithmetic		
Test upon 2B work	56	83	58	64

SUMMARY

Averaging the results of all classes tested, we have the following table of percentages:

2A Tests	Oral	Written
Classes with arithmetic in first year	81	72.6
Classes omitting arithmetic in first year	87.1	89.4
2B Tests		
Classes with arithmetic in first year	87.2	69.5
Classes omitting arithmetic in first year	90.7	61

It is thus shown that the classes which omitted number work during the first year of school not only held their own against those that had number, but actually outstripped their competitors. Hence it is hard to escape the conclusion that the time now given to arithmetic in the first year is worse than wasted; for when that time was devoted to English in P. S. 16, the children were able to read about three times as much matter as classes of the same grade where arithmetic was studied. At the same time, there was no loss of arithmetical ability, since the children were able easily to make up during the second year the little arithmetic they had missed during the first year.

June 30, 1915.

DISCUSSIONS AND COMMUNICATIONS

DO HIGH SCHOOL GRADUATES GOING ON TO COLLEGE HAVE BETTER MARKS THAN THOSE WHO DO NOT GO ON TO COLLEGE?

C. O. Davis*

Professor of Education, University of Michigan

IN compiling this report, in the returns in which the letters were used to indicate the grades, we used the following set of values for the letters: A–95, B–90, C–85, D–80, E–75.

We were unable to use three reports because of the scarcity of facts in figures, although the sentiment of these reports carries out the conclusions which we have drawn from the other five.

In the short report No. 2 we have attempted to show just how many of those who went to college were above or below median and of those who did not go the same has been attempted. In this report we have been able to make use of six of the eight reports.

School and Investigator	Time Covered	No. Graduates	Median Grade Graduates	Marks and Careers College		Not College	
Port Huron Easton	10 Yrs.	Boys —175	83.1%	80	88.2%	95	86.5%
		Girls —308	85.1%	50	90.6%	258	86.9%
		Total—483	84.4%	130	89.1%	353	86.75%
Sturgis Watkins	10 Yrs.	Boys — 35	89.5%	23	91%	12	88%
		Girls — 95	88.75%	36	90.7%	59	86.8%
		Total—130	89.12%	59	90.81%	71	87%
Ionia McGuinness	5 Yrs.	Boys — 41	88.42%	21	89.1%	20	87.75%
		Girls — 62	90.6%	10	91.6%	52	89.61%
		Total—103	89.51%	31	90.35%	72	88.68%
Frankfort Everest	10 Yrs.	Boys — 32	85.5%	12	87.5%	20	87.75%
		Girls — 74	90%	38	90.8%	36	88.4%
		Total—106	89.7%	50	89.5%	56	88.55%
Coldwater Bechtel	10 Yrs.	Boys — 99	88.5%	62	90%	58	87%
		Girls —135	91%	48	92%	66	90.7%
		Total—234	90%	110	90.8%	124	89%
	Boys Total	—382	435.02%	198	446.8%	205	437%
	Boys Average	—	87%		89.36%		87.4%
	Girls Total	—674	445.36%	182	455.7%	471	440.71%
	Girls Average	—	89.07%		91.14%		88.41%
	Average of All	—	88.05%		90.25%		87.77%

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* With the assistance of A. J. Easton (Port Huron schools), M. A. Watkins (Sturgis), J. P. McGuinness (Ionia), C. A. Everest (Frankfort), G. A. Bechtel (Coldwater) and C. H. Ross and W. W. Wixson (compilers).

The marks recorded throughout this study are the high school marks, not the college marks.

CONCLUSIONS:

1. Those going to college have a better grade by about 2½% than those staying at home.

2. The boys going to college have a better grade than the boys who do not go to college by 1.96%.

3. The girls going to college have a better grade by 3% than those who do not go to college.

4. The girls going to college have a better grade than the boys who go to college by 1.78%.

5. The girls staying at home have a better grade than the boys who stayed at home by .74%.

6. The boys going to college have a better grade than the girls who do not go to college by 1.22%.

7. The average median grade of those going to college is 90.25% or 2.2% better than that of all the graduates.

8. The average median grade of those staying at home is 87.77% or .28% less than that of all the graduates.

9. In one instance the boys who went to college had a poorer grade than those who stayed at home by .25%.

10. In only one instance did the boys who graduated have a better median grade than the girls who graduated and that by only .30%.

11. Thirty-six per cent. of the graduates go on to college.

12. Thirty-six per cent. of the graduates of the high school are boys.

13. Fifty-two per cent. of the boys go on to college.

14. Twenty-seven per cent. of the girls go to college.

15. Fifty-two per cent. of those going to college are boys.

Conclusion—High School graduates going on to college have better grades than those who stay at home by a very small difference.

REPORT No. 2

	College		Not College		Median G
Coldwater					90%
	Above Median	62	Above Median	49	
	Below Median	48	Below Median	75	
Port Huron					84.4%
	Above Median	101	Above Median	234	
	Below Median	29	Below Median	119	
Frankfort					89.7%
	Above Median	4	Above Median	4	
	Below Median	8	Below Median	17	

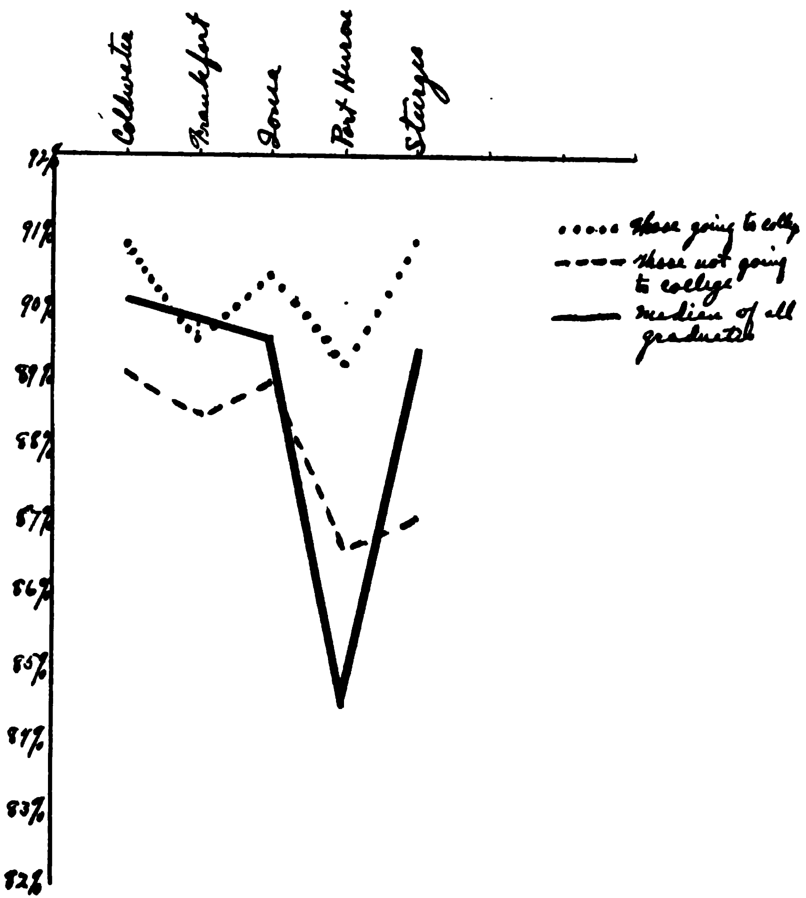

Table I
This graph shows the relation between median of all going to college and median of all not going to college.

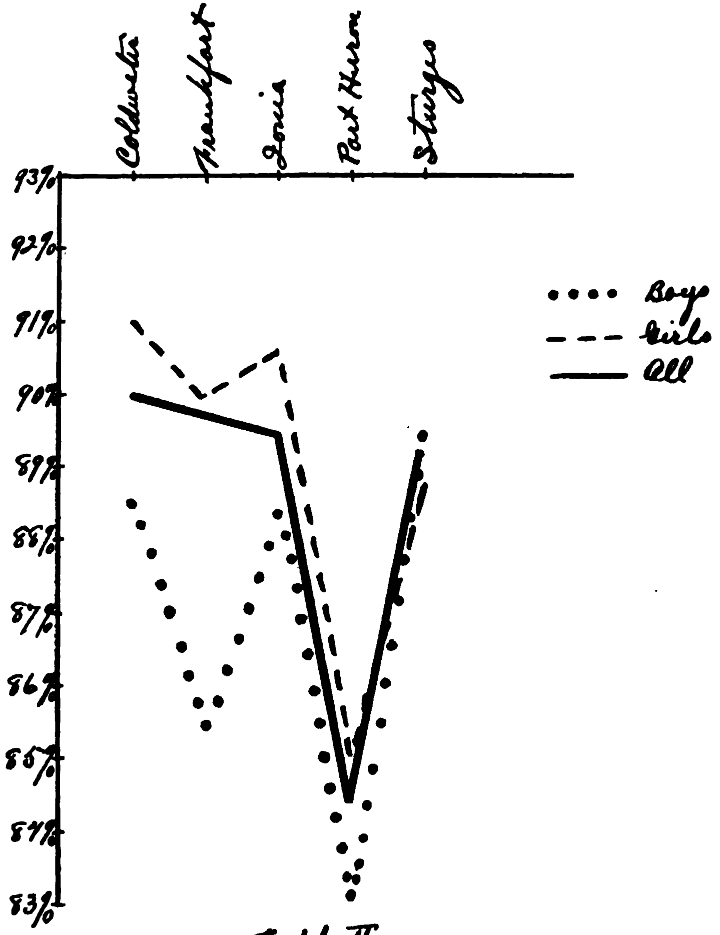

Table II
This graph shows the median grades of the graduates of the five high schools.

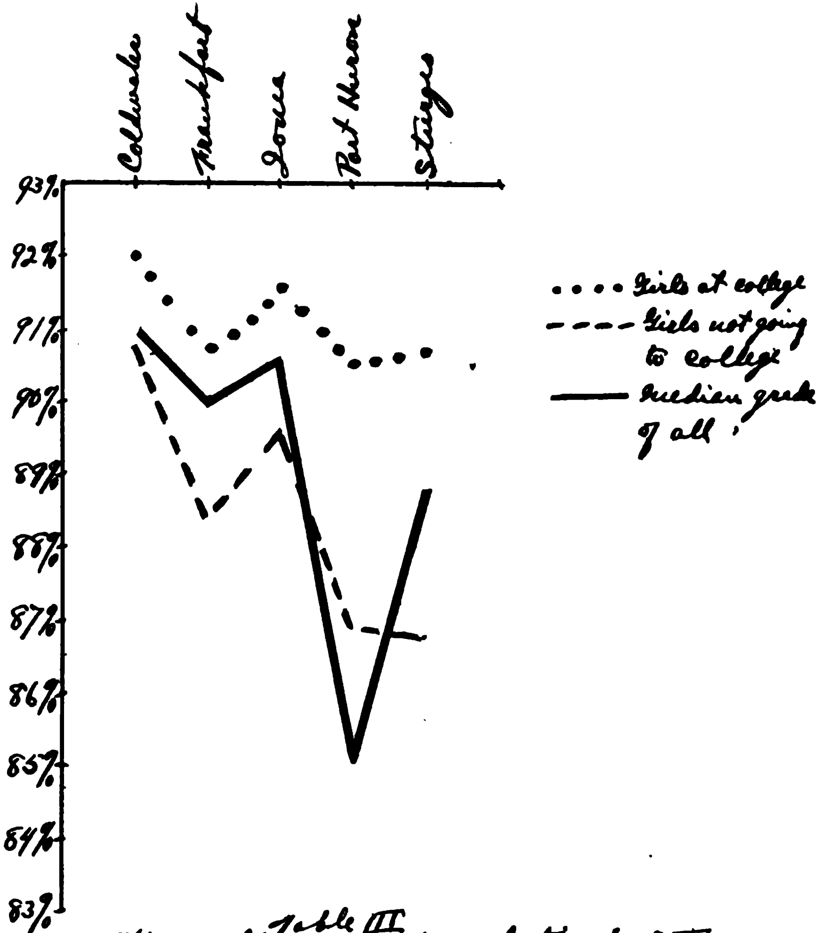

Table III

This graph shows the relation between the median grade of the girls going to college and the median grade of the girls not going to college.

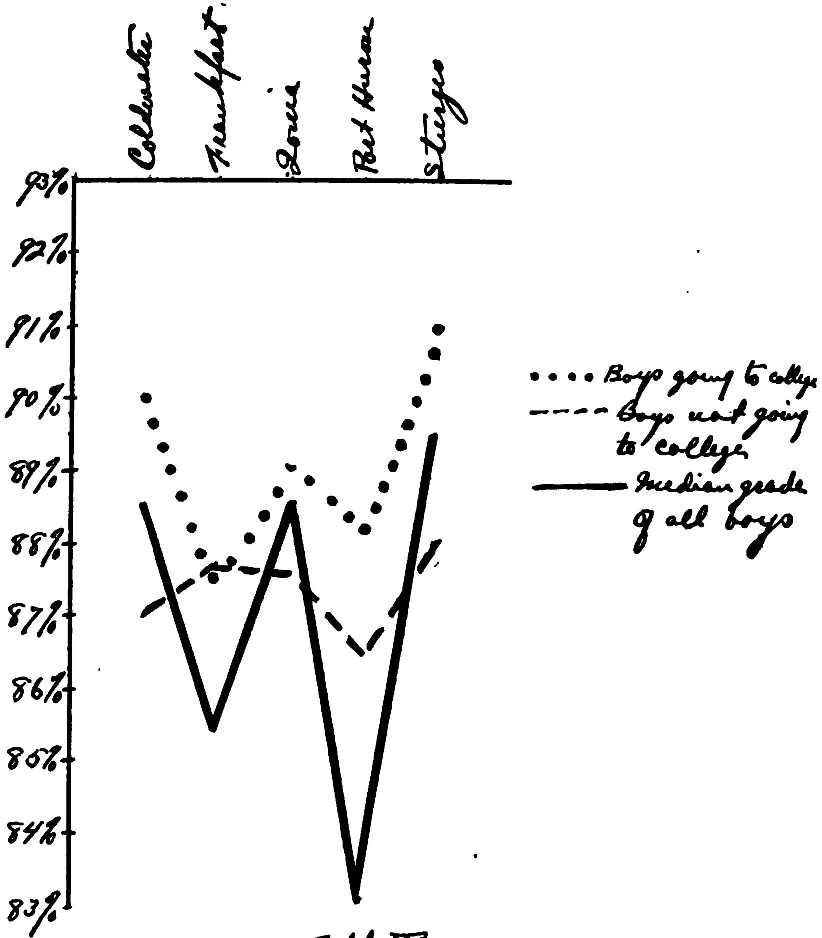

Table IV

This table shows the relation between the median grade of the boys going to college. and the median grade of the boys not going to college.

	College		Not College		Median G
Sturgis					89%
	Above Median	34	Above Median	35	
	Below Median	25	Below Median	36	
Dundee					88.7%
	Above Median	15	Above Median	32	
	Below Median	15	Below Median	25	
Lansing					87%
	Above Median	71	Above Median	40	
	Below Median	33	Below Median	38	
	Total Above Median	287	Total Above Median	394	
	Total Below Median	158	Total Below Median	310	

Total all graduates above median 681
Total all graduates below median 468

Conclusions:

1. Fifty-nine per cent. of all graduates are above median.
2. Forty-two per cent. of those above median go to college.
3. Thirty-three per cent. of those below median go to college.

NEW YORK CITY AND THE GARY PROPAGANDA

Albert J. Levine
Brooklyn, N. Y.

THE excellence of any system is its progressiveness. New ways of thinking tend to throw the machinery out of adjustment. That educational organization that is prepared to cast its elements into new combinations has the better chance to survive. New York City is suffering a change of heart toward the sacrosanct "Three R's." Those charged with the duty of administering its public schools are seeking an enrichment of the curriculum with a view of making the child socially competent to make the most of his capabilities. To realize a defect is one thing; to remedy it quite a different matter. Education has never been an exact science. Theory predominates in its content; and human ingenuity is prolix in multiplying hypotheses. Small wonder then that the educational situation in New York is fast nearing an impasse. A prior reasoning springs eternal in all men's minds, and New York's educationists have been richly endowed in this form of logic.

MILLIONS FOR THE GARY PLAN, BUT NOT ONE CENT FOR OTHER PLANS

Not the least perplexing problem crying for solution is the attitude of the City Administration towards the finances of the Board of Education. Some 800,000 school children, whose number is increasing yearly, must be provided with adequate schooling. Improvement in schooling means additional expenditure. New York City is spending upward of forty million dollars annually for all school activities. Any attempt to raise the school budget is opposed by those concerned with keeping down the taxation. The Board of Estimate and Apportionment deems it its bounden duty to curtail the expenses of running the City government. Mayor Mitchel and Controller Prendergast are at one in combatting any increase in disbursements. Mr. Prendergast has singled out the Board of Education for his especial financial dissection. As a result of his activities the school budget for this year is much below the figure estimated by the Board of Education. Mr. Churchill, president of the Board, has joined issue with him but to no avail. The controller has countered with the proposal to Garyize New York's schools. He stands ready to issue for the city an additional five million dollars special revenue bonds to defray the costs of introducing Mr. Wirt's plan of school organization modelled after the schools at Gary, Indiana. To this end, Mr. Wirt was hired by the Board of Estimate to serve in an advisory capacity. Mr. Prendergast approves the Gary plan. He thinks no other plan adequate. He is insistent; he is obdurate.

SPARE THE DOLLAR AND SPOIL THE SCHOOLS

There is complete accord with the controller's insistence on economy. The financial body is ailing and few deny the necessity of administering an economic pill. What the school officials object to is the controller's strenuous efforts to give this pill a Gary coating. Not that they object to the Gary plan. The school authorities are conducting an experiment in a few of its schools along the lines approved by Mr. Wirt. They rather dislike the strenuosity the Garyites are manifesting. The canons of experimentation demand evaluation of the claims and results of an experiment. Time is an indispensable element; time in which to study its defects and excellences; time in which to balance its merits and to provide for it an efficient administrative machinery.

Again, Mr. Prendergast is being confuted out of his own mouth. Mr. Wirt does not claim that the Gary schools are run more economically. The building of additional shops and playrooms, and their equipment does not lower the per capita cost. Moreover, there is strong feeling that the city administration is putting the dollar above the child. It is urged that any attempt to equate money with education is bound to disrupt the schools; that it is futile to assign a monetary value to the results of a particular school process. The school product cannot be price-marked.

THE TEACHING BODY IS PASSIVELY NEUTRAL

In the last analysis, the success of any experiment depends upon the whole-hearted co-operation of the class teacher. Teaching can never eliminate the personal element; and no organization that deals with the diverse elements of child psychology can ever hope to render class administration "fool-proof." Mr. Prendergast is erring grievously in accentuating the relation of employee that teachers sustain towards the city. The teachers are aware that the city pays their salaries. They are ready to stay within the shafts. They do hate to have the controller crack his whip over their heads.

But while they resent the controller's attitude of truculence they are not restive. The majority of the class teachers are staying out of the controversial zone. Of course, their several voices are occasionally heard in approbation or condemnation; but their attitude is for the most part one of neutrality. With commendable disregard for formality, they speak their minds freely in their organizations and in the press. There are enough Doubting Thomases and Unyielding Conservatives among them to supply a healthy ferment; and aside from commenting upon the utterances of their spokesmen, the teachers are refraining from taking a definite stand.

AN ATTEMPT TO BREAK THE DEADLOCK

"God save me from my friends" is a recurrent wail. Mr. Wirt does not share in the controller's intransigence. He is ready to make concessions; his announcement of his willingness to exclude the mooted factor of religious instruction, is one instance. He emphatically disclaims any intention on his part to place the city's school system upon a Procrustean bed of Garyism. He is favorably disposed towards the inclusion of factors not of his own making because he believes that these factors might be rendered mutually congruent.

Another ray of hope comes from the State Commissioner's office. Deputy Commissioner Finegan is working on a plan that he hopes to enact into law at the next session of the State Legislature. He is aiming to establish the following principles:

Complete and absolute financial independence for boards of education.

Definite and fixed authority for the superintendents.

Complete control of the public schools by the boards of education.

Boards of education elected by the people at a special election.

In the meantime the deadlock continues, and the schools are financially crippled.

DARTMOUTH AND THE SECONDARY SCHOOLS

James L. McConaughy

Executive Secretary, Dartmouth Committee on Admission

MISUNDERSTANDING and antagonism between school and college have been more prevalent in New England than in any other section of the country. From its strongly intrenched position the old New England privately endowed college has for decades dominated the secondary schools, dictating courses of study, and testing them, often arrogantly, by standards which it considered right. Nor has it been slothful in pointing out shortcomings. Inevitably, when the schools grew stronger and more fully realized their obligations to the public which supported them, they attempted "to throw off the shackles of the college"; misunderstandings and criticisms naturally resulted.

Historically four different methods of relating school and college have been used in New England. Examinations were for years imposed upon every candidate for admission to college; Yale and Harvard still continue to use this method in part although they now also consider the candidate's school record. When the other New England colleges inaugurated a certificate system, for some years each college had its own list of Approved Schools; a school might be permitted to admit pupils to one college on certificate but not to another. To bring order out of this chaos, and to simplify the requirements placed upon the schools, there was formed in 1902 the New England College Entrance Certificate Board, in which Dartmouth took a leading part. This Board, which eventually included practically all the New England colleges, has greatly aided in promoting closer and more cordial relations between school and college. There are many who feel that the Board would be of still greater assistance in this vexing problem if it could undertake some form of personal inspection, as do such Boards in other sections of the country; could co-operate to some extent with the state Departments of Education which are responsible for high school conditions; could do more to aid the small rural high school, which can only send a very occasional pupil to college; and would fully recognize the need of knowing principals as well as schools, for as many college failures among certificated pupils are due to certificates unwisely given as to inefficient schools.

In May, 1914, Dartmouth withdrew from this Board; her reasons were those mentioned; and the added fact that her growth during the past decade now makes her a national, rather than a New England college, two-fifths of her undergraduates coming from outside New England. With all schools outside New England the College was gradually promoting personal relations, and this personal touch seemed so valuable that Dartmouth desired to try to accomplish it with all the schools which sent men to her. This past fall an Executive Secretary (who is also Professor of Education) was added to the Committee on Admission. This Committee has recently outlined the new plan for selecting the schools which may admit their high-stand graduates to Dartmouth by certificate. As far as possible such schools will be selected after a personal visit by some member of the faculty; this visit enables the school to discuss directly any questions connected with college preparation and admission; it enables the College to secure a personal estimate, based upon actual inspection and discussion, of the ability of the school to prepare pupils for Dartmouth. These visits are proving of value in many ways: the school better understands what type of work Dartmouth is striving to do, and what sort of students may profit by a course there (the Executive Secretary of the Committee feels that one of the most valuable results of his work so far is inducing certain students not to attempt to enter Dartmouth, but to go to other institutions for which their interests and courses better prepare them); the Committee expects, during the winter, to invite many members of the faculty to undertake such visits; it feels that such a direct touch with high school problems will be of unusual value to these professors.

This new scheme at Dartmouth is *not* an attempt to increase the size of the student body; as a result of it the College hopes to raise its standard, increasing quality instead of quantity, and decreasing the number of students who must be dropped for poor scholarship. Nor does the plan propose to hand over to the state Departments of Education the right to dictate which schools may admit to Dartmouth by certificate; coöperation with these Departments is sought, but Dartmouth will continue to control its admission methods.

As an indirect result of this coöperation between school and College, the Committee on Admission is recommending that in the announcement of honors for Freshman year the name of the school which prepared the honor student be announced; it has suggested to the Trustees that the schools whose graduates make the best record in the first semester of Freshman year be publicly announced, and that the school with the highest record be duly rewarded with some trophy from the College. To secure the viewpoint of the schools the Committee has held five informal dinners and conferences for the Dartmouth alumni who are teaching, from which the trustees and faculty who were present secured many helpful suggestions.

Whether the "Dartmouth plan" will be of more than local interest the future alone can determine; certainly other colleges are watching it with considerable interest. If by it Dartmouth is able to convince the secondary schools of her sincere desire for coöperation; if as a result of its effectiveness fewer ill-prepared students come to Dartmouth; if the members of the faculty, by actually visiting high schools, can more readily learn the problems of these schools and the College's responsibility to them, something may be accomplished which will make this plan of interest nationally.

CUBBERLEY'S SALT LAKE CITY SURVEY

D. C. Bliss

Superintendent of Public Schools, Montclair, N. J.

IN the recent survey of the Salt Lake City public schools, Mr. Cubberley and his assistants have approached their problem in a sympathetic and helpful way. The merits of the system are recognized and its defects dealt with constructively, furnishing an effective basis for future educational development in Salt Lake City.

The chief defect of the city seems to be one of organization. The superintendent of schools has not been made the central coördinating power that he should be and the Board of Education has assumed duties and responsibilities that should be delegated to the executive officers of the department. Through these defects of organization much efficiency has been lost.

It would be an educational benefit to the country if Mr. Cubberley's definition of the proper function of a school board could be circulated generally among board members, pp. 24–25. He says in part:

"A fundamental principle of proper city school administration is that it is primarily the business of a board of education to receive reports as to conditions and needs, to weigh recommendations, to determine the broader lines of policies, and to legislate, while it is primarily the business of the executive officers it employs, to execute the legislation and policies which the board, after hearing reports and deliberating, has decided upon. . . . A board of education occupies a very important position and upon its good judgment as to what to do and what to let alone, depends much of the success of the administration of the schools. By improper organization, by doing too much, by attempting to handle too many things, by interfering too much with the work of the executive officers, or by indecision as to purpose, a board of education may interfere seriously with the proper working of the schools under its control, with the esprit de corps of those who render service in the schools and with a proper carrying out of that large and important state purpose for which they were elected to office."

The committee finds much to commend in the supervisory system, giving to excellent supervision credit for the high standards attained in the subjects tested though a large percentage of the teaching force is young and inexperienced and constantly being recruited from home talent—a dangerous educational practice. The scheme of supervision seems to meet one important test, that of bringing out the best which each one connected with the system has to give.

A spirit of coöperation which resulted in an admirable course of study, the work of the teachers as well as of supervisors, principals and superintendent, is found throughout the system. Everywhere there is placed a premium on initiative. This is best illustrated by Mr. Van Sickle's description, p. 75, of the courses of study. He says: "The courses of study prescribe minimum attainments which children must possess as a condition of promotion. Beyond this minimum great freedom is allowed. In developing any course of study for any grade beyond the minimum which is deemed attainable by the slowest pupil, the superintendent places large responsibility upon the principal so that he may adapt the work to any need peculiar to the local community. The principal in turn gives large liberty to the teacher in meeting individual needs of pupils and in following out lines of interest. Under these conditions the teacher cannot degenerate into an automaton. . . . There was evidently much to be desired on the score of broader preliminary education on the part of many teachers, yet this lack was evidently being met to a considerable extent by the student attitude and the consequent growth in power characteristic of a body of teachers who are being stimulated to regard their work as the solution of a series of vital problems rather than as a routine task."

It would be interesting to apply the four McMurry tests of good instruction in these schools and learn how far this liberty of action and stimulation from above has affected actual classroom instruction, how far the pupils themselves have been stimulated, as to motive, selection, reasoning, and initiative.

The standard tests applied gave results generally flattering to Salt Lake City, but they recorded only excellence of formal attainment, and in the case of arithmetic and spelling it is shown that the high standings are obtained at an unjustifiable expense of time.

The standard tests together with the age and progress study reveal one serious defect in administration—that of faulty and improper grading.

Retardation is much too high and comes as a surprise after reading all the members of the survey staff have to say in praise of the instruction and supervision provided. But one is led to expect that pupils are kept in their grades longer than is best for them or for the system, and perhaps some of the over age pupils brought up the class average.

Definite suggestions are given for meeting the problem of the delinquents and exceptional children and bringing about a much needed flexibility of promotion and general regrading of pupils.

Part III deals with Buildings and Health. The present school plant is described in pitiless detail, but Mr. Terman's analysis of the situation and his outline of what the standard requirements are, constitute one of the most useful educational studies that have come to my attention for some time. Every superintendent should read it.

The subject of Health Supervision is treated in the same scientific fashion and the suggestions made embrace all that has been evolved up to the present as necessary to child conservation.

The financial problem confronting the people of Salt Lake City is a peculiar one. They have the wealth and are willing to spend a reasonable amount upon their schools, but they are prohibited by the state from raising an adequate number of dollars.

Professor Cubberly says of the situation: "At the present time the schools of Salt Lake City can hardly claim a high place in any single phase of recent public school development, and largely because the city school authorities have had so little money with which to develop the system. It has taken all the money to develop the traditional type of school and teach the so-called fundamental school subjects. Where the schools will be in a decade more of the present policy of pinching to make both ends meet is not hard to guess. . . . . Under the present tax limit necessary educational increases are difficult, while the desirable new features and additions recommended in this report are not financially possible."

The report closes with a list of expenditures suggested for the next two years and a proposed law for the management of the Salt Lake City district, based upon the present faults of arrangement and consequent needs of the school system.

The value of this report is not confined to the people of Salt Lake City. As a piece of educationally suggestive work it is valuable to the profession in general, especially to the young or isolated superintendent and those school principals who are looking for a bit of stimulation from without.

THE SIX YEAR HIGH SCHOOL OF LEWISTON, IDAHO: PROGRAM OF STUDIES

F. W. Simmonds

Superintendent Lewiston Public Schools, Idaho

JUNIOR HIGH SCHOOL

Junior I

Required	Periods Per Week
English	5
Mathematics	5
History-Geography	5
Music	
Penmanship	
Physical Education	
Elective	10 or 5
	20

Elective	Periods Per Week
German	5
Spanish	5
Latin	5
Sewing	2
Cooking	2
Shop work and drawing	4
Fine and Industrial Arts	1

Junior II

Required	Periods Per Week
English	5
Mathematics	5
American History and Citizenship ½ yr	5
General Science ½ yr	5
Music	
Physical Education	
Penmanship	
Elective	10 or 5
	20

Elective	Periods Per Week
German	5
Spanish	5
Latin	5
Sewing	2
Cooking	2
Shop work and drawing	4
Fine and Industrial Arts	1

Junior III

Required	Periods Per Week
English	5
Music	
Physical Education	
Elective	10 or 15
	20

Elective	Periods Per Week
German	5
Spanish	5
Latin	5
Greek and Roman History	5
Biology	5
Algebra	5
Industrial History	5
Commercial Geography ½ yr	5
Commercial Arithmetic ½ yr	5
Cookery and Sanitation	4
Shop Work and Drawing	4
Fine and Industrial Arts	1

SENIOR HIGH SCHOOL

Senior I

Required	Periods Per Week	Elective	Periods Per Week
English (including Word Analysis)	5	Spanish	5
Physical Education		German	5
Elective	20 or 15	Latin	5
		Agriculture	5
	20	Plane Geometry	5
		Bookkeeping ½ or 1 yr.	5
		History:	
		European, ½ yr.	5
		English and Modern	5
		Astronomy, ½ yr.	5
		Physiology, ½ yr.	5
		Dressmaking	5
		Cabinet making and Designing	5

Senior II

Required	Periods Per Week	Elective	Periods Per Week
English	5	German	5
Physical Education		Spanish	5
Elective	20 or 15	Latin	5
		American History and Civics	5
	20	Advanced Algebra ½ yr.	5
		Solid Geometry ½ yr.	5
		Psychology ½ yr.	5
		Ethics ½ yr.	5
		Chemistry or Physics	5
		Stenography	5
		Typewriting	5
		Music	2
		Agriculture	5
		Chemistry and Physics of the Home	5
		Cookery and Household Management	2
		Domestic Art	3
		Forging	5
		Or Turning and pattern making	5

Senior III

Required	Periods Per Week	Elective	Periods Per Week
Physical Education		German (College German)	5
Elective	20 or 25	Spanish (College Spanish)	5
		Latin (College Latin)	5
	20	Physics or Chemistry	5
		Agriculture	5
		Economics ½ yr.	5
		Sociology ½ yr.	5
		Trigonometry ½ yr.	5
		Stenography	5
		Typewriting and Office Training	5
		Commercial Law ½ yr.	5
		Any suitable secondary subject or Work	5
		Millinery and Costume making	5
		House Construction ½ yr	5
		Cement Work ½ yr	5

NOTES

The Lewiston public schools during the past two years have been organized on the "6-3-3" plan. The elementary schools being located at convenient centers in the district, which is a large one.

The elementary schools are organized on the basis of six years' work—all principals to teach full time—a skilled elementary grade supervisor spends full time in class room supervision and has succeeded in unifying the work and increasing the efficiency of the elementary schools to a degree that is very gratifying, moreover it is a matter of administrative economy, as the grade supervisor relieves each of the five grade principals of half time supervision.

The Junior and Senior high schools occupy wings of the same building, having access in common to auditorium, gymnasium, laboratories and shops, but each high school has its own assembly and principal.

No distinction made as to requirements for teachers, all Senior teachers have one or more Junior classes and most Junior teachers have some Senior Work.

The high school day consists of six, hour periods, plus twenty minutes for morning exercises.

Aside from laboratory and shop work, the first half of the hour period is devoted to recitation, then two minutes for relaxation and calisthenics, while the second half is devoted to supervised study in the various recitation rooms.

Pupils not having class work any hour have an entire hour of supervised study in the general assembly hall.

Twenty-four credits are required for graduation. Each credit representing a years work. Three of the twenty-four credits may be earned in subsidiary work.

Nine of the twenty-four units are in required subjects—fifteen are elective.

Required Subjects	Units
English	5
Mathematics	2
History-Geography	1
History-Citizenship	½
General Science	½

As further guide to the selection of subjects beginning with Junior III year, pupils will be required to complete at least three units in one of the following groups:—And at least two units in one of the remaining groups:

Mathematics
General Sciences
Social Sciences
Foreign Languages

Students of good ability who are industrious are expected to complete the work in five years—thus saving a year.

Four units in music are offered and part of this may be earned under private instructors who have been approved if definite arrangements have been made with the Music Supervisor.

The following is a partial list of subsidiary work that is now being carried on for credit: Band, Orchestra, Glee Club, Chorus, Dramatic Club, Gymnasium work, Wireless Telegraphy, Photography, Parliamentary Law. The work must be regularly organized, in charge of a high school teacher, who personally supervises at least once each week. Credit possible in each line of work ¼ credit per year.

Also, students are allowed credit for systematic, regular work during the Summer vacation in Agriculture, Horticulture, Boys' and Girls' Club work, definite work in the home and Sunday School work.

The heads of the Departments of Agriculture, Manual Training, and Physical Training were retained on full salary eight weeks during the past summer and the results were so satisfactory that the same plan will be followed during this coming summer.

The Boys' and Girls' Gardening Club, including the sixth grade as well as the high school students, raised and marketed at current market rates $8426.00 worth of garden produce. The Manual Training shops were opened on condition that the students work one-half the time on school projects, being allowed to devote the remaining time to other projects. They made nearly $1000.00 worth of school equipment and furniture.

Pupils desiring to receive credits for subsidiary work must make definite arrangements before beginning work so that a clear understanding may be had as to requirements.

It is entirely feasible and possible for pupils to earn ½ unit of credit a year in subsidiary work and graduate much stronger than were such work not attempted.

All promotions in high school shall be by units of credit and the high school student's fitness to receive credit for work will be evaluated from the student's *daily work* and such tests and drills as may be given from time to time to develop power and skill in expressing the content of knowledge gained. Moreover, the pupil's general standing in "Attention," "Industry," "Attitude," "Initiative" and "Improvement" has much weight in determining the student's rating.

As a rule final examinations will not be given at the close of the term, for at this time they are mechanical and lose nearly all educational value.

Students must be impressed in the beginning with the importance of making a good record every day, that the best preparation for good work tomorrow is good work today, that the twelfth hour effort of cramming will not be accepted in lieu of satisfactory work. Making good use of the closing days of the term by systematic reviewing and discussion that will clarify and unify the work of the term is a safer assurance that the student will leave with the sense of power and mastery.

Reports are sent to parents at the close of each six weeks period. Students who have a general average of "Good" in all work including the attributes, Attention, Attitude, Industry, Initiative, and Improvement, and who have no unexcused absence or tardiness, are rated as "Honor" students. All pupils having two-thirds or more of all work and attributes "Excellent" are rated as "Highest Honor" students. These lists are given to the press for publication.

As soon as any student shows evidence of failing the parent and principal must be notified at once so that an earnest effort may be made to prevent failure.

The world's estimate of the pupil's work will probably be expressed as Excellent, Good, Fair or Poor. The same form of expression will be used by the teacher in designating the pupil's standing. On reports to parents the words are to be used in full; on the permanent records of the school they are to be abbreviated as E, G, F and P.

Beginning with each school year class advisers are appointed for classes of approximately 25 students. It is the special duty of each adviser to look after the welfare of the class as a whole and to give individual members helpful advice and encouragement as well as to insure their progress in the class.

All high school work is organized as a unit along departmental lines with departmental heads, who give the work vertical supervision by subjects.

Once a week all high school teachers and principals meet with the superintendent at lunch in the Home Economics department for general conference.

Two years ago 17 teachers were employed in the seventh and eighth grades and high school work at a salary of $13,900.00, teaching 323 pupils, or a teacher cost of $40.00 per pupil. Last year, the first year under the reorganized plan, 18 teachers were employed in the Junior and Senior High Schools at a salary of $15,575.00, teaching 417 pupils, or a teacher cost of $37 per pupil. This year 18 teachers are employed in the Junior and Senior High Schools at a salary of $17,406.00, teaching 468 pupils or a teacher cost of $37 per pupil.

This shows a salary increase of over $3500.00 since reorganizing the school on the present basis—including the employment of one extra teacher and yet the per capita cost for teachers fall from $40.00 to $37.00 per pupil.

The attendance in the upper six grades has increased from 323 to 468 in the same period of time representing an increase of 45% in two years.

The per capita total cost of maintaining the school system—grades as well as high school—during the past three years has decreased from $46.82 to $44.44 to $39.78.

Enrollment at close of first four months—the first year representing the enrollment before reorganizing the work:

Junior H. S.	1913–14	1914–15	1915–16
7th grade..........	78	94	115
8th grade..........	60	88	102
9th grade..........	54	89	96
	192	271	313

BOOK REVIEWS

P. C. Cole. *Industrial Education in Elementary Schools.* New York: Houghton Mifflin Co. Pp. 64, 35c.

In the introduction to this number of the Riverside Educational Monographs, the editor of the series, Dr. Suzzallo, makes a brief, but striking summary of the evolution of industrial education. Manual training, as he points out, first appeared near the beginning of the present period of educational unrest. Soon, however, this new subject fell a victim to pedagogical formalism, and became a series of lifeless exercises which aimed to develop an abstractly conceived technical skill. But because of its newness it was soon rescued from the formalistic grave, springing to a new life in the "project method" of treatment which not merely touched the vital interests of the children in this subject, but served to rediscover the principle of "learning by doing" in a manner that soon spread to every subject of the curriculum. Thus thrust into notice, it was but natural that the method of securing training, interest, and knowledge by manual exercises should be extended, and finally receive a place in every grade of the elementary school in the form of paper folding and cutting, weaving, modeling, woodworking, sewing, and kindred activities. All recognize the value of these subjects today. It only remains to organize this work, inter-relate and evaluate it so as to allow it to take its proper place as a part of every scheme of elementary education.

The author, in the first two chapters, devotes his attention to setting forth the differences between the ancient and modern conceptions of education and industry. He points out that in the past education has been almost wholly aristocratic—a means of separating those who only thought of *consuming* values, from those whose entire energies were devoted to *producing* them. This attitude is not wholly gone, we are told. The Roman idea of the "Contamination of Indústry" still exists, and "bookishness is the hereditary foe of industry" because "it removes men's eyes from the world about them and fixes them upon the ideals of the past." Modern science and invention, however, are driving the world to a new attitude of mind. Production has become a complex process. It demands knowledge, executive ability, power to organize, an understanding of very complex social relations. From being a source of mental contamination it has become a profound means of mental stimulation. While there is still a great gulf fixed between the thinker and the worker, we see the means of bridging it. The bridge must be built out of the material of the new industrial life, and the architect must be the elementary school.

These new industrial conditions make certain very specific demands upon the schools. In the first place, every child, regardless of its station in life, must be taught to appreciate the wonderful complexity of production and distribution as now carried on. In the second place all should be so introduced to the various occupations as to make an intelligent choice of a vocation not only possible, but very probable. Such an appreciation and introduction will not merely demand a re-organization of the subjects now included in the elementary curriculum, and an increased efficiency in methods of instruction, but the addition of at least one new subject. This subject shall be known as Industry. While the author agrees with those who would build the old subjects, such as geography, history, and arithmetic largely about an industrial center, he believes that this change will not be enough. A few years ago there was no demand for hygiene or civics as subjects of instruction, for the simple reason that the science and application of each was so simple, in the state of knowledge then existing, that there was nothing of importance to teach. The same holds true in the case of industries. A generation ago production was so simple that it would not have furnished material for instruction, but today it is one of the most complex fields of human activity.

Added to all that is now given in manual training, from the first grade to the high school, then, we would have this new subject which would present a broad view of the industrial world, as well as a detailed study of such parts of the great field as came with in reach of any particular school. The method would be as follows: 1. Instruction regarding the general features of the industry—source of raw materials, markets, etc., with specific references to the industry as exemplified locally. 2. Observation of the local example, attention being intelligently directed by the preliminary study. 3. Manual action, in school shop, garden, or home, where production will be carried on with as much of modern methods as is possible. 4. Discussion.

While the author does not specifically enumerate the fourth point, he elaborates it in his conclusions, and certainly it is a very important element if we would secure the broad appreciation of the entire field which was the first aim set.

In general it would seem that Mr. Cole has presented a practical scheme for industrial instruction in the elementary schools which is well situated in the wide unoccupied field lying between the present system, which, from the general feeling of discontent with its results, must be sadly lacking in some fundamental features, and such revolutionary schemes as that illustrated by Meriam, and so warmly approved by Dewey.

It is only natural that a re-organized curriculum and subject content should be demanded at such a time as the present, characterized as it is by the most wonderful advances ever made by the human race. But schools supported by society must adjust themselves to changes in such a manner as will not make too radical a break with the past-educational, social, and economic. It may be that the present subject matter and methods were suited to the past generation most admirably, that the Dewey-Meriam plan, gathering as it does all instruction about constructive activities which appeal directly to the interests of childhood, may be an ultimate ideal—one which can be adopted in the future when society becomes advanced to a state where adequate financial support for school maintenance and teacher training is possible; but for the best that can be done *now*, facing conditions as they *are*, the plan of Mr. Cole at least commends itself most highly to all who wish to see steady progress in educational adjustment toward a condition that will give to every child a form of education that will be best suited to his or her abilities and life experiences, and throw the greatest possible light upon the paths that lead from the school into the activities of the world.

The title of the book is wholly misleading. This should have been so stated that the reader might have started with the author instead of being lead gradually to realize that the author means, not "Industrial Education" in the elementary school, but merely the enrichment of the elementary curriculum to include the facts and trainings noted above.

Charles D. Lewis.

Berea College.

Anna Y. Reed. *Seattle Children in School and in Industry, with recommendations for increasing the efficiency of the school system and for decreasing the social and economic waste incident to the employment of children 14 to 18 years of age.* Seattle, 1915. Published by the Board of School Directors. Pp. 103.

This is the attractive title of the preliminary report of the survey of the "Metropolis of the Pacific Northwest," under the direction of the superintendent of schools and the board of education.

Mrs. Reed is a practical sociologist and community worker.

The task set for her was embodied in two questions: First, "What becomes of the boys and girls who leave school early, why do they leave, in what do they engage, and with what success?" and second, "How can the public schools serve this class better, without neglecting those who remain."

The first step in the investigation was to secure from school records the name, age, nationality, residence, school standing, and the teacher's estimate of the cause of leaving. With this information as a guide, personal visits were made to 919 homes. Information was obtained on: the economic and social status of the homes, the parents' reasons for allowing the children to leave school, the records so far as obtainable of all boys and girls who have been out of school for one or more years, their reasons for leaving, their present opinion of the wisdom of doing so, the various occupations entered, the length of time in each, the wages received, the reasons for success of failure, and their present opinions of how they might have been better prepared for life work.

The data collected are set forth in 37 well organized tables.

The characteristic mobility of such youthful labor is indicated in one table showing that 23% of the boys had had but one position, 30% two positions and 23% five positions. In reply to the question, "Are you satisfied with your present position?" nearly fifty percent both of boys and girls said "No." This corresponds very closely with the percentage who left school from dissatisfaction.

Among Conclusions and Recommendations, the writer states: "We have found nothing to indicate that trade schools would serve a useful purpose in our community. Training for occupational efficiency in part time or continuation schools would be useful to the child, to business and to society."

She recommends: That the compulsory school age be raised to sixteen years; that training for domestic service be provided in part time and continuation schools; that an ungraded school be maintained in winter for those out of employment, that an extension of the prevocational school service be made in the form of vocational advisers for parents and children and that a follow up system be inaugurated whereby the schools may be informed of the child's progress in industry.

A. J. BEATTY.

Urbana, Illinois.

JANE R. HARPER (compiler). *A Survey of Opportunities for Vocational Education in and Around Philadelphia.* Philadelphia: Public Education Association, 1915. Pp. 138.

In issuing this compendium of vocational schools, the Public Education Association of Philadelphia has performed a real service both to the educational profession at large and to the young people of their own community who are in need of vocational training and guidance.

Doubtless many young people spend large sums of money unnecessarily going long distances to schools away from home when there are equally good opportunities for vocational education at home. The purpose of this survey is to supply the necessary information about these home educational institutions, "with the hope that it may be the means of inducing at least a few to take advantage of the opportunities at their doors."

"The survey does not aim to be any thing more than a composite catalogue of 180 institutions. The information is taken direct from the schools' own statements and no attempt is made to vouch for either the efficiency of the courses or the character of the teaching."

The various schools are first listed under three heads: Industrial, Commercial, and Professional, with further subdivisions under appropriate headings. The main part of the work is a comprehensive table giving for each school more or less detailed information under the following captions: Name and Location of Schools; Courses and Subjects Offered; Entrance Requirements including race, sex, age, and scholarship; Tuition; Time of Beginning and Length of Terms and Sessions; Length of Courses and Certificates or Degrees awarded Graduates. Another valuable table gives an alphabetical index of all vocational subjects with cross references to the various schools offering those subjects.

Public elementary and high schools are listed with the other school as are also the various institutions supported and controlled by religious bodies. If the controlling organization were given in the case of each of the schools it would add greatly to the value and usefulness of the work.

The issuing of this manual is a step which may well be followed in other cities by public spirited organizations who wish to help their young people to make the most of local educational facilities.

A. J. BEATTY.

Urbana, Illinois.

TRUMAN LEE KELLEY. *Educational Guidance.* New York: Teachers College, Columbia University Contributions to Education. 1914. Pp. 116. $2.00.

This study is a rather intricate and hopeless attempt to solve one of the most complex of our school administration problems, that of educational and vocational guidance. Elaborate correlations have been worked out, which are destined probably to be never even seriously considered by the practical teacher or administrator. These are based upon (1) the grammar school record; (2) estimates of the various teachers as to the pupil's intellectual ability, conscientiousness, emotional interest and oral expression; (3) special tests, given in an attempt to discover characteristics and personal tendencies and inclinations. These tests cover such subjects as algebra, geometry, history, and English, and correlations are worked out in an attempt to determine the pupil's probable success in his later school work. The pupil's interest in certain magazines, books, and sports is taken as a criterion of ability, and the results form the basis of additional correlation formulae.

According to the author the aim of the study is first the measurement of the characteristics of the pupil, together with the determination of the extent to which the characteristics correlate with scholastic ability along certain lines; second, an analysis of the demands of certain high school courses. A definite attempt is made by him to accomplish the former task but he evidently becomes so enamoured of the mathematical processes involved that he forgets to mention again the latter part of his program.

Other points to be noted are: the page of vocation statistics adds nothing to the data gathered by others and no adequate interpretation of them is made; the attempt to interpret choices of novels in a vocational way would seem almost hopeless, for the relation of interest in a novel to the vocation choice is too remote and mystical to admit of scientific evaluation; again, the interpretation of the data is not good because not clear nor definite; finally, the wide diversity of tests and methods serves only to emphasize the fact that educational and vocational guidance as administration programs are still largely experimental and even vague. Until we can arrive at definite and concrete methods of procedure such as those in operation at Grand Rapids, we can expect at best only indifferent results. Such a study as the one under review does serve to mark out and clarify the problem, and thus occupies a very necessary place in the line of progress.

JAS. HOWARD HANGER.

Decatur, Ill.

IRVING FISHER AND E. L. FISK. *How to Live.* With an Introduction by Ex-President William H. Taft. New York: Funk & Wagnalls Co., 1915. $1.00, pps. xix and 345.

This book is authorized by and prepared in collaboration with the Hygiene Reference Board of the Life Extension Institute. This Reference Board, whose members are listed on pages xv–xix, is constituted of leading men in America and abroad, in fields of medicine, public health, eugenics, and physical culture, such as W. J. Mayo, V. C. Vaughn, J. H. Kellogg, W. C. Gorgas, R. H. Chittenden, C. B. Davenport, David Starr Jordan, Walter H. Page, Harvey W. Wiley, Dudley A. Sargent, Alonzo A. Stagg, Dr. Teleky of Vienna, Dr. Gautier of Paris, Dr. Flügge of Berlin, and Dr. Kitasata of Tokio.

The book is the first text of the Life Extension Institute following a year of careful consideration of material by the Hygiene Reference Board. The aim of the book, as explained in the introduction, is

(1) To provide the individual and the physician with the latest and best conclusions in individual hygiene;

(2) To ascertain the exact and special needs of the individual through various health exercises; and

(3) To induce all persons who need medical assistance to visit their physician.

The book aims to assist in the preservation of health, the improvement of the physical condition of the individual, and the increase in his vitality—in other words, it aims at preventive rather than curative medicine. The proceeds from the sale of the book are devoted to further philanthropic work of the Institute.

There is a discussion of 171 pages, in five chapters, of

(1) Housing, clothing, out-door living and sleeping, and deep breathing;

(2) Quantity and content of food, uncooked foods, and mastication;

(3) Presence, posture, care of the teeth, etc.;

(4) Work, play, sleep; and

(5) Rules of hygiene, being an explanation and an appeal for more attention to hygiene.

Pages 171 to 325 are devoted to supplementary notes on how to reduce or increase weight (171–221); correcting faulty position and physical weakness (221–226); effects of alcohol (227–249), and of tobacco (250–271); avoiding colds (272–280); degenerative diseases (281–293); and eugenics (293–325). The book presents sane and practical suggestions such as would be expected from such collaborated consideration. The different points of view of science are presented. The book is practically a pioneer in its field, although Herbert W. Fisher (*Making Life Worth While*, 1908, pp. xiii and 318, Doubleday, Page & Co., $1.20), has given us a book of similar content. Perhaps the fifteen rules of hygiene, page 119, might be improved upon. Many of the suggestions are exceedingly valuable and the book should serve an excellent place in the modern era of preventive medicine. It should prove very useful as supplementary reading to a course in Physiology and Hygiene in the high school. It should be in every public library and would also be a handy book of reference in the home.

VERGIL V. PHELPS.

Urbana, Illinois.

Educational Administration and Supervision

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Vol. II FEBRUARY, 1916 Number 2

EDITORIALS

The Detroit Meeting

IF the Department of Superintendence in February carries through its promised schedule of meetings those in attendance will realize on their investment of time and money and thought energy expended for the privilege of attending.

Among the many important discussions and addresses scheduled we note with special pleasure the two debates on "Differentiated Curriculums for the 7th and 8th years of Public School Education" and on "The Junior High School."

These are distinctly debatable issues as we have pointed out at length in former editorials. We may confidently expect that thoroughgoing debates by such competent participants may bring to light just what specifically are the genuine issues (as distinguished from personal prejudices) at stake. Some of the speakers have before publicly debated kindred subjects, notably on the occasion of the recent Richmond meeting of the Department. At that time we had the extremely important subject of vocational and liberal education debated. This debate is now known as the "Snedden-Bagley Controversy." Seldom has there been created in an audience of schoolmen keener and more interested attitudes. Rarely of recent years has a whole audience been so engrossed in the issue as that one was. The intellectual atmosphere was electrified. The moment was of supreme educational importance. There were on the floor at the conclusion of the formal debate perhaps twenty educators earnestly seeking recognition by the chair. Only three succeeded in securing a hearing. Fifty doubtless would eagerly and effectively have made their personal contribution to the question if the possibilities could have been realized at once.

The pity of it was that the Governor of Virginia had to march in at this moment for "recognition" and for his formal brief, and at that time, inopportune "words of welcome." When this interruption was concluded the intellectual fire which had flared had gone down, the intellectual issues raised and the attitudes aroused in the audience could not be effectively revived. The "audience sentiment" of perhaps the largest and best body of practical educational leaders was not moulded and wrought while hot. The rare opportunity was for the time, for this purpose, lost.

President Shawkey doubtless is consciously bent upon not only securing capital debates on these two of the most important and urgent administrative problems of the day, but bent also upon following up the argument, and seeing to it that the full open discussion even *advances* the argument. C. H. J.

Military Training in Chicago High Schools

AT a meeting of the Chicago Board of Education held December 29, 1915, a practical step was taken looking toward the establishment of military training in the high schools and manual training schools of the city. The resolution, referred without debate to the committee on school management for a preliminary report, is as follows:

WHEREAS, There is widespread demand throughout our beloved country that the United States be placed in a position in which we could defend our land against any possible assault which might be made upon us, and with such end in view it is desirable that the young men of the nation be given an elementary training in military and naval affairs; and

WHEREAS, As a people we deplore and condemn militarism as a government factor in national life, yet realize that thorough preparation for self-defense is necessary to preserve our government against possible assault;

Therefore, Be it resolved by the board of education, in regular session, that its committee on school management be and it is hereby instructed to report within sixty days plans to bring about a simplified form of military training of the young men in our high and manual training schools.

Military Training in High Schools

(The plank in the two party platforms of education)

ABSOLUTISTS

MILITARY training is entirely consistent with our conception of secondary education. Drill classes in military tactics and in mass exercises will "discipline" the high school boys. It doesn't particularly matter that the *sort* of military education we can introduce (considering our source of teachers and our school facilities) will not be either a preparation for the real work of the modern soldier or a modern employee in industry. Neither is our Latin nor our history (as at present organized and taught) a preparation for real life, in the sense that in the daily mental exercises of these classes these subjects "smack" of reality to the boys who are subjected to them. In all types of "drill" exercises—military drilling, conjugating, or dating political and military events—pupils are unconsciously affected so that later they will fit into any national regime which our "national leaders" may carry through. Like our systematic and carefully prearranged "scientific" laboratory experiments in high school these military exercises will help greatly to "routinize" both the school and the individual. It doesn't matter if "setting-up drill," practice in manual of arms, drilling in marching on level surfaces and practicing battalion movements on a smooth ground and for parade purposes are dull and boring and unreal for high school boys. It doesn't matter precisely as it doesn't matter in the usual Latin and traditional mathematics courses if the development (bodily or mental as the case may be) resulting is uneven, not symetrical and actually harmful physically. It is discipline; it is obedience, prompt and unquestioning; it is mass formation; it is uniformity; it is authoritative; and finally it is anti-individualistic, thoroughly in keeping with all else in our strictly non-differentiated high school curriculum.

Furthermore, according to the Chicago *Tribune*, (Dec. 30, 1915) 87.2% of 2816 Chicago parents of high school boys vote for it. The people are demanding it (at the *Tribune's* post-card inquiry suggestion and according to this paper's interpretation of its own results from these Chicago patrons of high schools). Anyhow some sort of required and well supported military training will be much better than our present system of athletics and poorly organized departments of physical education.

EXPERIMENTALISTS

The real work of a modern soldier or of a modern professional, commercial or industrial man requires and depends upon coördinated manual skill, agility, strength, endurance, and "form" (all of which reflect and express a mental and moral attitude). For the soldier, for example, rapid and skillful use of modern machine guns, the "throwing" arm (for the hand grenades), short distance running, with a 50 lb. burden, effective use of shovel and pick and other tools for excavating—all such results of concentrated *technical training* can be acquired best and most easily and in a short time *after* maturity, as the Swiss for example have abundantly demonstrated. In our American high schools and colleges we have overtrained the few and neglected the many; we have, possibly, given the favored few the genuine and wholesome "fighting spirit" while failing utterly to provide means for any such expression for the great majority.

Health and vigor for the individual at the critical high school period, not only as to his bodily dimensions and special skills in popular games, but as to the best development of his heart, lungs, and other vital organs, together with an *educated conscientiousness* regarding his physical efficiency and an *understanding of the laws of hygiene in their concrete personal applications,* constitute the goal and the safeguard of a nation's citizenry in the arts of peace and war alike. High school boys who are acquiring physical and mental control through a conscious educative process of personality development in its broadest and best sense will automatically make a nation unconquerable. Vital unpreparedness is physical and mental and moral in a much more profound sense than it is technical. As Dr. Dudley Sargent of Harvard says, we want educational preparedness rather than gladiatorial and spectacular preparedness. We shall have, if school boards hastily adopt measures looking toward incorporating military training into the high school curriculum, an ill-conceived and inadequate pseudo-military science, formalized and non-educational in character.

Neither Military Science nor formal military exercises can successfully be superimposed or plastered upon our developing system of secondary education. The pedagogical disasters sure to follow can easily be surmised. Officers, specialists in this Military Science, a nation must have of course. But our existing higher and special military institutions must provide them. If necessary the nation can easily afford to establish additional sectional institutions of the West Point type.

After all this has been said, however, it would be a calamity if our high schools fail to capitalize the present experiences as regards the emphases and lessons of the world war. Let us, however, not in haste and vague fear and excitement confuse universal militarism at the immature high school age with that of nationally safeguarding democracy. No mere technical, literal, and formal preparedness will suffice to secure such a fundamental thing as American democracy. Let us not do so soon again what the first extreme enthusiastic advocates of vocational education did; that is, expect, with the first shock and confused realization of the inadequacy of ourselves as a competing nation in this military, as in the former vocational sense, that we can, in the twinkling of an eye, as the *Tribune* naïvely and blusteringly supposes, reverse the aims, ideals, policies, and even the somewhat naturalized mental processes of our democratic life. Militarism hasn't yet, let us remember, been made to spell national efficiency, much less a still higher national destiny.

Will then, we ask, simple military drill give the boys proper carriage, instill a wholesome love of country, and provoke a feeling that they are doing something for their country? With broomsticks for their rifles, school basements and small gymnasium floors for their drill grounds, monotonous and mass marching for their athletic games, and under trainers wholly out of touch and sympathy with the historically rooted and controlling ideals of public high school education we can picture readily the premature educational farce of it all.

Let us instead set to work to reform our athletics and reconstruct our system of physical education, and raise the standard and dignify the status and functions of our directors of physical education. Incidentally we can, and should, incorporate all legitimate features of military exercises just as the Boy Scout organizations have possibly fairly well done. This emphatically does not mean that our American high schools and high school men are to capitulate to an educational ideal totally foreign to the vital and essentially American conceptions upon which the ultimate success of American secondary education depends.

C. H. J.

Final Written Examinations in Public Schools

EXTREME variation in practice regarding the use and the usefulness of final written examinations indicates the urgency that exists at the present time for some statement of an educational principle which may serve as a sort of guide. Although written primarily for teachers of medical subjects Dr. J. M. Dodson (The Pedagogic of Pathology, *Science*, Dec. 3, 1915) makes clear certain principles of the examination well worth the careful attention of every school man. He writes as follows:

"May I, in this connection, comment on the singular and prevalent perversity with which teachers in all lines and grades of education in this country are prone to get away, in their practice, from the fundamental idea and purpose of education?

Its primary purpose is to develop the mental faculties, *not* to impart information. And this is quite as true of medical as of any other kind of education. That the pupil shall be educated, trained to observe accurately, and thoroughly, to record his observations clearly and concisely, and to reason logically from his findings to sound deductions—*this* is the main purpose and function of any educational process, be it medical, pathologic or any other. We in America seem especially obtuse in our failing to recognize this vital truth, as is shown conspicuously in the character of our examinations. We have made some progress in our teaching methods, though we have yet much to learn, but we continue to test the results of our work by methods a half-century out of date. In examinations for graduation, for licensure to practise (with exceptions now in a few states) and in competitive examinations for internships in the best hospitals, the papers set are wholly written papers of such sort as to test only the *volume of facts* which the candidate has been able to cram into his cranium—a test, on other words, of but one mental faculty, the memory, and that by no means the most important. Into the student's real power to see and hear and feel things, to know what he observes, and to draw sound conclusions from his findings—in short his ability to *do* the things he is to be called upon to do as an intern and a practitioner of medicine, we make no real inquiry whatever. If we are to give our students the proper conception of what they are attending the medical school for, and an effective stimulus to really develop all of their mental faculties, along medical lines, we must radically change the character of our examinations."

It is strange that more has not been written concerning professional supervision of the examination. We recall the valuable onslaught upon the traditional practice of their administration by Superintendent Spaulding in his portion of the well-known Report of the Portland Survey as especially good.

C. H. J.

BOOK NOTES

F. S. BREED AND VERNON CULP. *An Application and Critique of the Ayres Hand-Writing Scale.* (Reprinted from School and Society, Vol. II, No. 44, Pages 639–647, October 30, 1915.)

More evidence is here produced to support the contention of Starch and Freeman, that the Ayres scale does not, in practice, measure legibility, but form. The correlation between the ratings of samples on the Ayres scale, and the actual legibility of the same samples, determined by the time required to read them, was very low, just as Starch and Freeman have reported earlier. It was found also that the correlation between the actual reading time and the ratings by each of the Thorndike, Ayres, and Freeman scales were practically the same.

The authors conclude, with much evidence to support their contention, that the Ayres scale, however accurately it may have been worked out on the basis of legibility, really measures just what the other scales measure.

ELLWOOD P. CUBBERLEY. *Report of a Survey of the Organization, Scope, and Finances of the Public School System of Oakland, California.* June, 1915. Board of Education Bulletin, Number 8.

This investigation and report was suggested to the board of education by the recent increased expenditure for schools, and was carried through with the purpose of finding out just what reasons existed for such an increase, and, if practicable, to discover a means of cutting down the expenses of the system.

The first recommendation which Cubberley makes, as usual, is more centralization in the administration of the schools. Instead of having practically four independent departments, as at present, in Oakland, he would have the superintendent the real responsible head of the system.

The only reduction which he deems at all practicable in the interest of economy is a reduction in the cost of repairs and buildings. The city has a high per capita wealth and a comparatively low per cent. of children of school age, and can amply afford to give them good educational advantages. The city has been more lavish in its expenditures for other purposes, and could better economize, if more economy is necessary, on some other department of city government than on its school system.

W. S. DEFFENBAUGH. *School Administration in the Smaller Cities.* Bulletin, 1915. No. 44. Washington, D. C.: Department of the Interior, Bureau of Education.

This study of school administration in cities of (2500–30,000) population, is based on 1300 replies to questionnaires sent to superintendents in such cities and on personal visits to some of the cities. The plan of the bulletin includes an explanation of existing conditions and recommendations concerning the qualification, manner of election, compensation, powers, and duties of the school board, the superintendent, and the teachers.

Some of the more important recommendations are: transference of authority in matters requiring professional knowledge from the board to the superintendent; making the superintendent the real head of the system; a general decrease in the size of the school board, ranging from three to seven, according to the size of the city; an increase in the salaries of both elementary and high school teachers, and some form of permanent tenure.

FREDERICK ERNEST FARRINGTON. *French Secondary Schools.* New York: Longmans, Green, and Company, 1915. Second Edition.

This well known book may be called a sort of classic in comparative education so few are the comprehensive treatments of the particular educational field in English. It is an account of the origin, development, and present organization of secondary education in France. We note the following announcement in the preface to the 1915 edition:

"This new edition of French Secondary Schools affords opportunity for correcting a few errors which have come to the author's attention. Although the program now in force differs in some particulars from that represented by the reform of 1902, the fundamental principles of that sweeping reform have stood the test of experience. Inasmuch as these were set forth with considerable detail in the original text, it has seemed best to leave those pages untouched and to give in a new appendix the complete program which went into effect October, 1913. The few insignificant modifications in the program of the girls' schools have been incorporated in the body of the work. Here also are to be found the important changes in salary schedule, fees in boys' schools, and subjects of the baccalaureate examination, as well as other changes of less moment."

As a matter of fact this is scarcely a new edition. It is to be regretted that the author did not deem it desirable to make a thoroughgoing reorganization of his work. There are surely many matters upon which a revised judgment might have helped the student of French education. Particularly could the author well have made clearer some of the obscurities regarding practical administration which the first volume contained. More important than this, he could have clarified the discussions relating to the construction and the administration of differentiated curriculums in the Lycées. A comparison of modern American developments in the direction of parallel curriculum organizations leading to the multiplication of curriculums other than the "college preparatory" with what in France amounts chiefly to the bifurcations of the college preparatory type of curriculum would have led the author perhaps to a revision of his verdict concerning the overwhelming importance of the 1902 reforms. These reforms do not really seem, in the light of developments in secondary education since the first edition of this book, to be anything like so fundamental as certain American developments. It would have been more profitable also for the readers to have had included in a second edition more adequate explanations of just how the "cycle" principle of curriculum construction is a French contribution to educational administration, and to have illustrated this more clearly than we find it done in the old edition. Many improvements of perhaps a still more vital nature may occur to all those teachers who have used the present volume as a text. But we have here in mind such obvious elaborations of the cycle principle which would make as clear the manner in which organization of mathematics material or of foreign languages or science materials can be better done on the 5 (or 6)–4–3 plan, as it is more easily made clear for the subject of history. All the more interesting and instructive would this have been now that we in the United States are apparently embarking upon a similar cycle arrangement in our 6–3–3, or elementary-junior-senior high-school organization.

LUCY E. FAY AND ANNE T. EATON. *Instruction in the Use of Books and Libraries.* 1914. Boston: The Boston Book Company. (Useful Reference Series No. 12.) (Pp. 449, $2.25.)

This text-book covers an actual need in giving courses in library methods to teachers. Teaching outlines by several authors have been issued but there has been no one text-book to put into the hands of Normal School students. To teach students how to use books and libraries, so that they may in turn impart this information to children in schools is the first purpose of this book, and its authors, themselves librarians as well as teachers, have well covered this subject.

To help teachers acquire that knowledge which a teacher must have in order to encourage in children an appreciation of literature is the second purpose the authors of this manual have had before them, and Miss Eaton's treatment of this important subject will be found helpful to all librarians where work with children is done.

In Part Three the purely technical field of classification, cataloguing, etc., is covered by Miss Fay, the aim being to give only the elements necessary to the adequate administration of the school library.

It is at once apparent on examining this volume, that it will prove very useful, not only to teachers, but to every small library. It condenses and eliminates in just the way the small library will find most welcome.

The part of the book covering chidren's literature is especially useful and timely, covering nearly 150 pages, divided into chapters: "An Historical Survey of Children's Literature," "The Present Problem of Children's Reading," "Fairy Tales," "Poetry," "Classics for Children," "Children's Stories," "Other Books for Children," "Illustrations of Children's Books," "Choice of Editions," "Children's Magazines," "List of Children's Books." Wherever children come to read, this volume will be a welcome source-book for the librarian in charge.

In Part One is a thirty-page list of books for a high school library, and forty pages devoted to general and special reference books, with good lists. The book has 17 illustrations and 53 figures or reproductions of catalogue cards. An index completes the volume.

HAROLD W. FOGHT. *Rural Denmark and Its Schools.* New York: The Macmillan Company, 1915. (Pp. xv, 355.)

The period of land exploitation must yield to one of genuine husbandman farming. These changes are being forced upon us. We are even now half-agricultural and half-industrial. Agricultural production does not keep pace with the demands made upon it. The great problem of American rural life is tied up closely with agricultural production. This production must be increased. How are we to change the prevailing indifferent system of agriculture so that we may be no longer guilty of the characteristic Americanism of soil exhaustion?

We must till the soil more scientifically and we must make country life effectively attractive and wholesome. There must be developed a rural community leadership—and in the very communities which at present are suffering from social, economic, and spiritual retardation. Farm community schools appear to be the likely institutions to do this work. One of the obvious things to do for these unusually unprogressive rural schools is to make students of the problem profit by whatever is good in the older systems of the long-established agricultural nations. Many of the blessings that have come to Denmark can be ours.

The materials for the book the author secured during extensive visits to the schools of Denmark and other European countries as representative of the United States Bureau of Education.

HAROLD W. FOGHT. *The School System of Ontario (with special reference to the rural schools.)* Washington, D. C.: United States Bureau of Education. Bulletin 1915, No. 32. Whole Number 659.

The author outlines the whole scheme of education, of all grades, as a setting for his special discussion of rural schools and agricultural education.

It is interesting to note that Ontario is having the same difficulties which this country has had, and is still having, in substituting larger units of administration for the present largely independent and generally inadequate one-teacher schools. The movement toward consolidation is gaining ground slowly, presumably largely because of the extreme conservatism of the rural population. A feature of the proposed consolidation is the establishment of township high schools, which will probably have some supervisory relation to the smaller schools.

There has been within the past few years a decided improvement in the teaching personnel, following a general raising of the requirements for teachers and a corresponding increase in salaries.

C. Truman Gray. *A Score Card for the Measurement of Handwriting.* Bulletin of the University of Texas, 1915, No. 37.

The author lists many of the important investigations that have been directed towards the establishment of scales for school subjects and for teacher rating, and gives a brief evaluation of the methods employed. He voices a very general opinion to the effect that too little analysis and too much arbitrariness has been exercised in the derivation of most of these.

He points out that there are two ways to judge handwriting; by rating the process, and by rating the product. Much confusion has resulted, he says, from mixing the two. He fixes upon the latter method.

In his proposed score card method he selects nine qualities which a large number of judges have found to figure consistently as important, in rating with a much larger list of qualities.

These nine qualities have been ranked by three groups of judges and the rankings translated into absolute values on the basis of a total of 100.

The correlation of each of these nine qualities with general merit have been secured by rating the specimens on the Thorndike scale in each of these qualities.

The nine qualities are placed on a card of convenient size, each with its particular value attached.

Clarence Arthur Perry. *The Extension of Public Education, A Study in the Wider Use of the School Plant.* U. S. Bureau of Education Bulletin 1915, No. 28. Whole Number 655.

Perry brings out in an interesting way the changing conceptions of the function of the public school in the community: the later conception of its duties to the industrial, as well as to the professional classes; to the grown-ups, as well as to the young.

Descriptions of numerous concrete examples, in which particular schools are reaching out into every community activity, have been gathered from various cities throughout the country and are accompanied by pictures. Statistics showing the exact amount and kind of extension work carried on by the public schools have been gathered from 110 cities and are presented in tabular form.

To those unfamiliar with the aims of the extension movement, the bulletin will give a clear and brief outline by the leader of the movement in the public schools; while to others it will reveal much of the present proportions of the movement and its very recent and rapid growth.

RICHARD L. SANDWICK. *How to Study and What to Study.* New York: D. C. Heath and Co. (Pp. 175, 60c.)

This book is typical of the increasing number which are concerned with the problem of how judiciously and systematically to increase the emphasis in school work upon mental economy as perhaps roughly contrasted with the more usual mental display. The author thinks of extending the "coaching idea" and have it apply to preparation for recitation in much the way it now applies to preparation for playing games of competition. First the general principles of study are attacked and there follows attempts to make definite applications to the different high school subjects.

It is to be hoped that some psychological authority may sense the present situation in this field and interpret for educators the psychological laws more or less definitely established with regard to economy in concentration. Doubtless we shall soon have special investigations of how pupils work which will reveal to us the typical and psychologically unique sorts of obstacles normal students encounter in their attacks upon the different subject-matters of the high school subjects. General "study coaches" can do but little beyond what the ordinary teachers in charge of the "assembly" of heterogeneously grouped high school students now do—keep order, and rest a little if she can. The development of the profession of "supervisor of study" must presuppose some respectable body of systematized principles and facts with which those candidates for such positions may be set off professionally. High School librarians are amassing such material of this kind as a result of their double function of keeper of books and director of how to use them. Possibly we may have more often from now on a combination English (or History) teacher-librarian-supervisor-of-study functionary.

HERMAN SCHNEIDER. *Education for Industrial Workers.* New York: World Book Company, 1915. School Efficiency Series, edited by Paul H. Hanus. Pp. x, 98, 90c.)

When the author, invited by Professor Hanus to undertake the study indicated by the title of this volume, investigated the opportunities for the industrial education of boys and girls provided by the City of New York, he found those opportunities so insignificant in amount that it was clear to him that the best service he could render the survey commission and the city was to define a policy of industrial education for this particular city and to offer constructive suggestions for carrying that policy into effect

Dr. Schneider, as others recently have done also, points out that only a relatively small number of persons can ever enjoy all-day trade training prior to gainful employment. Naturally then the purport of his answer in this volume is that we need schools which will provide training that can well accompany gainful employment in the form of part-time coöperative industrial schools, and continuation schools. His solutions are not merely theoretical ones. What he advocates is somewhere in successful operation, some in institutions he has been influential in bringing into existence, some also in institutions which he has personally directed.

The book is helpful in aiding one to appreciate the conditions of modern industry and the genuineness of the problem of preparing children for earning their living under these conditions. The distinction between energizing and enervating occupations is a clear and a valuable one.

PHILIP SNOWDEN. *Socialism and Syndicalism.* Baltimore: Warwick and York. (Pp. 263, 40c.)

The author describes at considerable length the conditions which have called the Socialist movement into being. He traces its development from the academic stage to the time when its significance and its desirableness have, he thinks, been recognized by the workers. The three Socialistic principles of Marx are discussed in a sane way. While acknowledging Marx as a great, probably the greatest, expounder of Socialism, the author does not hesitate to condemn some of his theories; among others that manual labor is the sole producer of wealth. He describes as excrescences of the true Socialism such movements as Individual Anarchism and Anarchist Communism. Such extreme movements have been too often identified with Socialism and have sometimes brought condemnation upon all Socialistic tendencies, as such. The latest of these offshoots, Syndicalism, holds to the idea that organized industrial workers compose the only legitimate governing body. As an advocate of Socialism, as he understands it, the author heartily condemns Syndacalism. He would have the working classes secure justice through the State, not by the destruction of the State.

The little book, though necessarily a summary treatment of the subject, contains some interesting discussions and characterizations of socialistic doctrines.

PUBLIC, SOCIETY, AND SCHOOL LIBRARIES: United States Bureau of Education. Washington, 1915. Bulletin No. 25. Whole No. 652.

The bulletin gives in convenient form the statistics in regard to the libraries of 5000 volumes or more in the United States. The reports of 18,000 public, society (including corporation) and school libraries for the year 1913 have been used. Tables concerning circulation, incomes, expenditures, cards in force, distribution of books and public taxation, salaries, employees, etc., are included. The material here presented has not been thus collected since 1908, since which time great development in the library service of the country has taken place. Therefore the facts made available through this report will probably be very useful to librarians and educators of the country.

NEWS NOTE

The Fifth Annual Meeting of the National Council of Teachers of English

TWENTY-five states represented and over five hundred present, that is the record of the Fifth Annual Meeting of the National Council of Teachers of English. The keynote of the several sessions was definite progress in the solution of definite problems. Chief among these were the improvement of speech, the development of the school library, the preparation of school and college teachers, the vitalizing of oral composition, and the selection of essentials in English grammar. Of the addresses on the general program, that by Professor John L. Lowes, of Washington University, St. Louis, Mo., on *Shakespeare's Response to What the Public Wants*, was generally regarded the most impressive. This was a remarkable combination of scholarship and popular appeal. Percival Chubb, of the Ethical Culture Society in the same city, presented a talk on the Shakespeare Tercentenary.

The work of ten committees was represented at the meeting. Among these committees were those on Plays, on the Reorganization of the High School Course, on the Work of the First Six Elementary Years, on the Labor and Cost of English Teaching, on the Preparation of College Teachers of English, on English in the Normal School, and on American Speech. The Committee on Scientific Standards made no report, but will soon publish in the English Journal a bibliography bringing the list of investigations in the field of English up to date. New Committees were provided to deal with the development of libraries and with the subject of economy of time in the teaching of English. Among the resolutions adopted was the following offered by Professor F. N. Scott, of the University of Michigan:

> *Resolved*, That the National Council of Teachers of English approves the movement to raise the academic standard of the profession of journalism and, therefore, recommends to secondary school authorities that no student be encouraged to enter the newspaper profession without further academic training that is afforded by the secondary school.

It was also resolved to amend the Constitution so that local associations of teachers of English with a small membership might affiliate by the payment of a correspondingly small fee. The new scale is as follows: societies with a membership of fifty or less will pay $2.50 a year; those with over fifty but not over 150, $5.00; those over 150 $10. It is believed that this new scale will make it possible for all of the fifty local associations of teachers of English to join the central body and thus be prepared to work in complete harmony. At present about half of these associations are affiliated.

Representatives of some of the Eastern associations strongly urged that the annual meeting of the Association to be held next year in New York City in order that the members in the Eastern states might have a fuller opportunity to participate. It is likely that this suggestion will be adopted by the Executive Committee of the Council. This will not, however, carry with it the implication that the Association is to move about from town to town. Without the slightest doubt succeeding meetings will be held in Chicago because of its central location. Special meetings of the Council will continue to be held in connection with the meeting of the Department of Superintendence in the winter and with the National Education Association itself in the summer. In this way meetings will be held in Detroit, Michigan, February 24 to 26, and in New York City, July 6 to 8.

Educ

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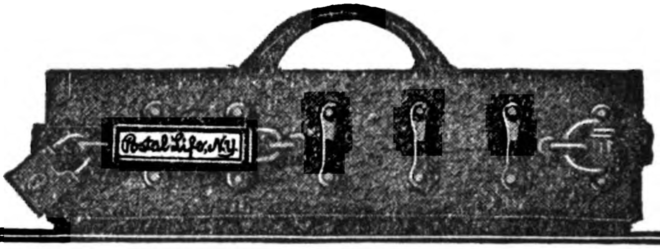
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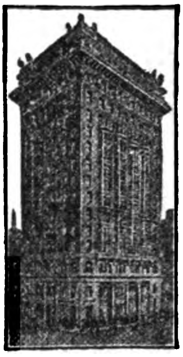

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J. B. Sears
Stanford University

As a part of the recent survey of the schools of Salt Lake City full information was gathered regarding the distribution of time in the daily program of studies. In view of the increasing interest in this phase of the problem of economy of time in elementary education, and since there is as yet no such detailed data for a single city available for study, it seems worth while to preserve this material for the use of those committees and individuals now engaged in the investigation of this question.

The particular value of this study lies in the fact that it is dealing with actual time allotments and not with official time tables, which do not fairly state the real practice in the schools. To say that a given city devotes 17.6 per cent. of its entire working time to arithmetic is in practice only partly true. Consequently any generalization as to the efficiency of arithmetic instruction in that city on the basis of such time allotment is scarcely dependable.

Salt Lake City has a population of 100,000, with a school attendance below the high school of approximately 18,000. The thirty schools are in session for ten months of the year, and are taught by 496 teachers. The subjects taught, and the grades in which they are taught in the different schools may be seen in table I.

On the left of the table are the names of all subjects taught in the city. Since in some schools certain grades are not taught the bottom row of figures is presented to show the number of

TABLE I.

SHOWING BY GRADES THE NUMBER OF SCHOOLS OFFERING EACH OF THE SUBJECTS

Subject	Grade							
	1	2	3	4	5	6	7	8
Reading	30	30	29	29	28	28	26	21
Writing	29	30	29	29	28	28	26	21
Arithmetic	29	30	29	29	28	28	26	21
Spelling	1	30	29	29	28	28	26	21
Language	28	30	29	29	28	28	26	21
History and Civics	5	5	12	9	19	18	15	21
Geography	1	2	29	29	28	28	26	2
Physiology and Hygiene	7	8	11	18	15	21	13	5
Phonics and Phonetics	28	28	28	22	7	2	1	1
Nature Study	26	29	28	24	20	22	15	10
Music	30	30	29	29	28	28	25	21
Art and Construction	30	30	29	29	28	28	25	19
Domestic Art and Science	1	1	1	2	27	26	26	21
Mechanic Arts				2	27	26	26	21
Physical Education	30	30	29	29	28	28	25	20
Moral Education	21	19	24	22	22	20	17	14
No. of schools in which each of the grades is offered	30	30	29	29	28	28	26	21

schools in which the work of each grade appears. Thirty schools are offering work in grades one and two, while only twenty-one of the thirty schools are offering eighth grade work. The row of figures following each subject indicates by grades the number of schools which offer that subject. A brief examination of this table will show very much the same kind and degree of variability between *schools* as other studies have shown to exist between *cities*. For instance ten schools teach nature study in the eighth grade, while eleven others do not. By way of comparison one should examine the subject of history, physiology, nature study and writing in this table along with the results of Elson and Bachman who made a similar study of fifty cities,[1] or with those of Prince who presents such data for sixty cities,[2] or with those of Payne who dealt with fifty cities,[3] or with those of Freeman dealing witb writing alone in sixty-six cities.[4] All these studies show that there is, among cities, no standard with respect to where a given study shall begin, how long it shall continue, or where it shall end, and identically the same thing is true as between separate schools in this one city. In both cases the formal subjects, which are usually considered more nearly standardized from the standpoint of content,[1] appear also to be more nearly standardized from the standpoint of their places in the curriculum. The place of the three R's seems to have been easily determined for they reach from the beginning to the end of the eight years.

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[1] Studies and Study Values in Elementary Schools of 50 Large Cities, Elementary School Teacher, Mar., 1910.

[2] Sixtieth Annual Report of the Board of Education of Mass. 1895–1896, p. 441.

[3] Payne, Bruce. Public Elementary School Curricula, Silver Burdett, 1905.

[4] Fourteenth Year Book of the National Society for the Study of Education. Pt. I: 66. Chicago, 1915.

From this it appears that it is equally true to say that the Salt Lake City schools teach nature study in grade eight, or that they do not, for in ten schools they do, and in eleven schools they do not. The official manual outlines such instruction for this grade, hence if any of the above named studies include this city, they have doubtless tabulated it accodingly. Yet the fact is that such a statement is less than half true, which suggests the danger of generalizing too much upon data of that sort.

The school day for Salt Lake City includes 300 minutes of study and recitation time for all grades except one and two, where it is 240 minutes. This is varied slightly by the fact that no rigid requirement is enforced in the matter of recreation periods, their length varying in different schools from twenty-five to thirty-five minutes per day. The week, excluding recess time, is therefore 1500 minutes for grades three to eight, and 1200 minutes for grades one and two.

In Table II is shown the maximum, the median, and the minimum number of minutes per week given to each of the subjects in each of the grades. In Table II in almost every case it will be seen that the variability of time allotment among classes is extremely wide. For instance in the second grade, the most time given by any teacher in the city to the subject of arithmetic is 400 minutes per week, the least amount is 30 minutes, and the median amount is 100 minutes. Fifth grade history varies from 10 to 200 minutes per week, with a median of 53 minutes. Eighth grade reading varies from 90 to 280 minutes, with a median of 200 minutes per week. And so the table runs throughout. The variability in time allotments is of course not fully measured by these three figures alone, but these are sufficient to show that there is no such thing as a standard daily time schedule for any

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[1] The extent to which arithmetic content is or is not standardized has recently been examined by Dr. W. A. Jessup. See The Fourteenth Year Book of the National Society, Pt. I, Chap. VIII; also N. E. A. Reports for 1913: 464, and for 1914: 209.

TABLE II

SHOWING THE MAXIMUM, MEDIAN, AND MINIMUM AMOUNTS OF TIME ALLOTTED TO EACH SUBJECT, IN EACH GRADE, OF ALL SCHOOLS*

Subject	Grade I			Grade II			Grade III			Grade IV			Grade V			Grade VI			Grade VII			Grade VIII		
	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.
Reading	550	275	140	625	300	50	975	375	200	725	352	155	350	225	90	300	200	75	300	200	120	280	200	90
Writing	150	51	20	150	50	20	100	73	20	100	75	45	150	75	50	100	75	45	150	70	40	100	70	40
Arithmetic	175	50	20	400	100	30	450	225	80	500	226	100	380	250	180	350	240	125	325	250	180	375	280	180
Spelling				300	100	30	250	150	60	225	125	75	250	125	75	175	100	75	190	105	50	160	105	50
Language	200	75	20	200	75	20	175	100	20	200	125	50	250	160	70	300	177	100	365	225	145	480	255	150
History and Civics	50	20	5	75	50	25	80	25	10	150	50	25	200	53	10	90	30	20	250	50	25	375	230	150
Geography							160	100	60	225	150	100	300	225	125	300	245	150	375	250	150			
Physiology and Hygiene	25	25	10	25	20	10	50	20	10	145	33	10	200	30	15	210	80	15	150	50	15	80	30	20
Phonics and Phonetics	400	78	25	300	75	20	125	52	15	125	48	10	75	30	20									
Nature Study	150	50	15	100	50	10	90	50	20	125	50	15	100	30	12	100	27	12	90	30	20	100	30	20
Music	225	75	30	200	100	30	145	100	60	125	100	75	150	100	75	125	95	60	125	100	75	175	95	30
Art and Construction	275	120	45	300	120	45	240	125	45	180	120	50	135	100	30	125	90	20	120	60	20	100	40	30
Domestic Arts and Science													130	60	30	150	105	20	140	90	60	180	90	45
Mechanic Art										120	75	60	130	60	40	150	90	50	120	90	60	180	90	60
Physical Education	150	70	20	200	52	25	300	73	50	275	75	50	240	75	40	235	55	40	235	65	40	220	50	20
Moral Education	75	27	5	50	27	5	100	31	10	50	26	10	70	25	10	60	23	10	50	25	20	50	45	10

* These figures are for the upper division classes of all grades only but are fully representative of all allotments.

TABLE III

Distribution of All Classes in Spelling in Salt Lake City and in Oakland with Respect to the Grade and the Amount of Time Spent on the Subject

Minutes per week	Salt Lake City							Oakland						
	Grade							Grade						
	2	3	4	5	6	7	8	2	3	4	5	6	7	8
225 or over	2	7	2											
220		1	1											
215														
210														
205														
200	1	6	1	5	1		1			1	1			
195											1			
190						1								
185														
180										1				
175	1	7	4	4	8	1			1	1	3	1		
170		1									1			
165					2		1					1		
160						1			1		2			
155					1		1			2		2		
150	6	21	22	12	7	7	2	5	9	4	4	12		
145												1		
140									1	1	2	1		
135				1			1	3	2	1	2			
130											2			
125	2	13	11	10	8	8	5	4	6	9	6	1	3	
120			1	1	1		1	2	5	1	2		2	2
115									2	1				
110	1		2	2		1			2	3	2	2		1
105				1	2				1					
100	19	13	17	19	17	19	9	8	11	12	8	11	4	3
95										1	1	1		
90			3		2	1	1	2	3	1	2	7	3	7
85							1	1		1				
80				1	1	1			3	1	4	3	2	
75	11		2	1	4	7	7	5	1	2	1	2	3	1
70									3	1	1		1	1
65											1			
60	1	1				2	1	4				1	4	3
55													2	
50	16	1				1	1					1		
45								1	1	1	1			
40													2	1
35									2				1	2
30	2										2		1	
25	1							1						
20														
15														
10	1													

725 minutes. Now if the two classes tested are equal in achievement we assume that the two schools are well graded, that is, that the same standard for promotion obtains in the two. The fact is, by so doing we are covering up the very lack of economy which equal promotion standards should obviate. For though we have been promoting in terms of achievement, which is of course necessary, we have not taken account of the actual time cost of such achievement. And until this is done we have no real measure of teaching efficiency, however well standardized our test may be.

A further study of the table will show that such discrepancies in time distribution are the rule and not the exception, and what is true in arithmetic is quite as true in nature study. Glancing at the total and per cent. columns, it is fair to ask whether a child entering high school from school No. 2 will have the same grasp of arithmetic as will the child who enters from school No. 4; or will the child entering from school *No. 1* have the same knowledge of nature study as will the child from school No. 3. Again we must say, that no one figure, as average, median, or "official time," is to any large extent representative of practice in the city.

Our next interest is in the time value placed upon the five formal studies: arithmetic, reading, writing, language, and spelling. For this, the time allotment for one class in each of twenty schools has been tabulated, and is expressed in total number of minutes per week, and in per cents. of total recitation time, in table V. There is here again a fairly wide diversity of opinion as to the relative importance of the formal subjects, the range in grade one being from 20 to 46 per cent. of the total recitation time. In grade two the range is from 32 to 79 per cent.; in grade three from 47 to 80; in grade four from 53 to 86; in grade five from 46 to 92; in grade six from 45 to 65; in grade seven from 50 to 67; and in grade eight from 47 to 80 per cent. The total range being from 20 to 92 per cent. of the total school time. Here as in the previous tables it would be very hard to mention an allotment which would be reasonably representative of the city as a whole.

A study of these twenty classes with respect to the amount of time assigned to this group of subjects in different grades supple-

TABLE V

SHOWING TIME ALLOTMENT IN MINUTES PER WEEK, AND IN PER CENT. OF TOTAL RECITATION TIME, DEVOTED TO THE FIVE SUBJECTS: ARITHMETIC, READING, WRITING, SPELLING, AND LANGUAGE, IN ONE CLASS FROM EACH OF TWENTY SCHOOLS. (PHONICS AND PHONETICS NOT INCLUDED IN READING)

School by No.	Grade I		Grade II		Grade III		Grade IV		Grade V		Grade VI		Grade VII		Grade VIII	
	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total	Min. per wk.	% of total
1	525	35	650	54	1000	67	1275	85	1110	74	900	60	1000	67	900	60
2	400	33	395	33	825	55	895	59	825	55	975	65	975	65		
3	430	29	850	71	875	57	900	60	890	59	860	57	940	63	950	63
4	450	30	450	38	900	60	875	58	1000	67	735	49	965	64		
5	575	35	925	77	925	62	865	58	690	46	725	48				
6	445	29	625	52	850	57	875	58	850	57	775	52	975	65	995	66
7	370	25	465	39	800	53	900	60	775	52	935	62	755	50		
8	850	57	720	60	1000	67	975	65	880	58	900	60	875	58		
9	695	46	945	79	800	53	900	60	845	56	785	52	810	54	710	47
10	305	20	700	58	875	58	925	62	775	52	910	61	940	63	940	63
11	425	28	525	44	925	62	1000	67	950	63	930	62	820	55	895	59
12	350	23	450	38	925	62	800	53	810	54	930	62	960	64	960	64
13	500	33	850	71	925	62	925	62	750	50	905	60	830	55	810	54
14	450	30	800	67	925	62	930	62	765	51	735	49	860	57	990	66
15	450	30	825	69	1025	67	925	62	875	58	865	58	875	58	755	50
16	515	34	485	40	1200	80	1295	86	1375	92	850	57	850	57	800	53
17	500	33	600	50	705	47	820	55	705	47	685	45	820	55	975	65
18	650	43	390	32	1050	70	925	62	975	65	880	59	890	59	820	55
19	500	33			975	65	975	65	845	56	710	47	820	55	1205	80
20	300	20	775	64	875	58	875	58	750	50	710	47	850	57	895	59

ments the above discussion of this question. What was shown there for two single subjects appears to be quite as true when groups of subjects are studied.

There is one other question touching the problem of time allotment which seems not to have been dealt with as yet, and that is the relative amount of time set apart for study as compared with that set apart for recitation. One class in grade 6A spends 100 minutes reciting spelling lessons which have been studied but twenty-five minutes, another class of this grade spends an equal amount of time on study and recitation, and another spends 100 minutes studying what they use but 75 minutes to recite.

This is at least indicative of wide differences in the method of handling this subject. A few figures are presented in Table VI to show something of present practice in this one city. The words "study" and "recite" are not defined, but here they have their usual meaning. Study however may or may not be supervised, and many recitations are nothing less than carefully directed study, and this is as it should be, yet such a division of time has to be made, or at least is made in most schools, and it may be instructive to know what the division is in a group of cases.

For this purpose Table VI shows the facts for one upper fifth grade class in each of 25 schools. From this it is evident that there is no standard in practice here. The reasons for this wide diversity in the relative amounts of time given to study and to recitation respectively may be largely administrative or they may be involved largely in the question of method. Whatever they are at least there is no agreement as to a best arrangement.

Many other problems of similar detail might be studied, and all have to do ultimately with the question of a best way, that is, a most economical way of administering the school curriculum.

In the above there has been no effort made to measure the time allotment in Salt Lake City in terms of accepted practice elsewhere, nor to try to characterize the practice there by reference to a single figure, such as average or median. The purpose has been to present enough data, and in such form as to fairly describe the system, or the lack of system, in matters of time allotment in this city. The small amount of data from Oakland

TABLE VI

Showing the Distribution of Time for Study and for Recitation in Five Subjects in One Upper Fifth Grade Class in Each of 25 Schools

School by Number	Reading		Arithmetic		Spelling		Language		Geography	
	S.	R.	S.	R.	S.	R.	S.	R.	S.	R.
1	100	100	100	100	75	100	75	100	60	100
2	75	115		200	75	75		125	125	100
3	125	150	125	150	75	75		150	100	150
4	125	200	100	150	100	75	25	75	100	150
5	77	77	125	125	75	100		70	125	125
6	100	125	125	150	75	75		125	125	125
7	100	100	100	100	60	45	80	80	100	90
8	100	250	130	250	50	50		100	100	125
9	75	125	100	150	50	75	100	125	75	150
10		180	175	100	50	70	80	100	100	100
11	100	125	125	125	50	50	115	125	125	125
12	55	120	100	125		75	100	125	100	125
13	125	125	125	125	75	50	50	100	75	100
14	100	150	100	150		100	75	125	75	150
15		125	125	125		100	125	125		125
16	75	150	100	125	75	75	100	125	100	125
17	100	225	100	150	50	150		100	75	125
18	100	125	100	125	50	100	100	125	180	100
19	75	125	100	125	75	75	50	75	50	90
20	100	125	100	125	75	50	125	125	100	125
21	60	75	100	125	75	25	100	125	100	125
22		150	120	150		75	100	100	150	150
23	80	100	80	120	60	75		120	60	80
24	100	125	100	275	60	65		125	100	120
25	125	125	125	125	50	50	75	125	125	125

S = study. R = recitation.

helps to justify the belief that the almost complete lack of an accepted standard is by no means characteristic of Salt Lake City alone. What the above tables show would probably be duplicated in many if not most cities of this size. Summarized we find:

1. That there is wide diversity of practice in the different schools as to when a study should begin and how long continue.
2. That there is wide variability as to the amount of time assigned to a given subject in different schools and grades.
3. That the distribution among grades of the total time allotted to a given study is widely varied.

4. That the amount of time assigned to the formal studies varies greatly among schools.

5. That there is no accepted standard in the division of time for study and recitation.

Elasticity in all these matters is highly desirable, but what have school administrators to say for such extremes in practice? While no one would expect the opposite, viz. a uniform time allotment in all schools, to better the situation, yet there is here abundant evidence that elasticity in this one feature of school procedure has been overworked. It simply means that the question is wholly unstudied, and no school principal can defend that sort of administration. If it takes one school 22 per cent. longer to teach the course in arithmetic than is consumed by another school, then there is surely poor work somewhere. What can be the basis for promotion with such a diversity in time spent on the work? We cannot avoid such questions. The time cost no less than the money cost must be figured in any scientific administration of the curriculum.

If similar data gathered in a number of typical cities shows this same chaotic condition, as I have no doubt it would, then we know that it is time to look to this item in our educational budget. We shudder at the thought of definite experimentation in our schools but what have we here but experimentation and that with no controls being exercised. Of course with a constant changing in our curriculum content standardization in time is difficult. An increasing literature is accumulating on these subjects and it is to be hoped that careful experimentation may soon begin.

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The Management of the Speech Defect Problem in the Public Schools*

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THE speech defect problem varies in different cities. As far as I can judge, it depends somewhat upon the presence, outside of school efforts, of efficient agencies working for the alleviation of speech disorders. Where there are extensive private stuttering schools there is less provision to train stutterers in the public schools. Where efficient speech specialists are devoting their lives to this problem, if they are well trained there naturally is less demand for such work by city school institutions. Again, where a city has no lay institution, the public institutions form school classes for that purpose. And yet in many cities there is no provision at the present time for this much needed work.

To the above mentioned divisions of this work this paper is not addressed. The work demands reformation in many ways to render the speech work more in accord with recent psychology and modern findings in the researches upon speech mechanisms. This subject I reserve for a later opportunity.

The present paper, then, will merely outline in a general way some of the conclusions that have been reached by numerous observations on methods in the public schools, which have now undertaken to solve this problem. In general these methods show, except in the easier phases of speech defects, like phonetics, a very unscientific and unpsychological method of approach. Let us turn to a short consideration of what is meant by this.

Unscientific Elements. By calling some of the speech work in the schools unscientific, I mean this. When a man like Professor Ennis, who has been traveling all over this country with a temporary fake cure for stuttering, persuades the superintendents to form classes in the public schools for a few weeks' duration, and advertises extensively in the newspapers for private pupils; and when a little temporary improvement has arrived, *then* procures certificates from the superintendents "Heartily approving of his work," and after collecting all his fees, he vanishes to another part of the country, only to have his apparent cures relapse and be as bad as ever, soon after his departure, one begins to think that the schools should become scientific; that superintendents should follow the advice of those who know; that men really trained in the cure of speech defects by scientific well established methods should be the ones to be consulted in this matter. Again, when lay methods of treatment are adopted from one school as a private system that is contrary to the findings of science, it is time for those schools to wake up; and also ask those who know.

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The Unpsychological Side: In the last few years both academic psychology and medical psychology have opened up their laboratory activities to include a study of speech and speech defects. These are the sources that should be studied and from which our knowledge should come in the application of training in the public schools. On the contrary, our sources of guidance have too often been the faker and the charlatan who promise big results and demand large fees in advance, and too often fail to to make good. One sees this so frequently and the faults and failures are so glaring and pronounced to those who know what should be, that the time has come for the teaching profession to see and realize that there should be properly trained individuals in the field and that the problem should be approached both scientifically and psychologically.

I said that I would except phonetics. I mean this: That in general, phonetics or the poorer mechanical formation of the standard English sounds, are pretty well taught. This may be considered as quite natural, because it is not a difficult subject, requires little or no training, and almost any teacher without much instruction can undertake it. It is like sewing; one does not have to go to college to learn to sew. So that in this way phonetics as it is usually taught in the public schools passes by and escapes the scathing criticism which the rest of the problem will receive from me.

The above scathing criticism, then, omits for this reason phonetic defects and is directed primarily towards work on stutterers and work in the "Special Classes."

The field as a whole divides naturally into three parts: Phonetic defects, Stuttering, and Special Work for "Special Classes."

1. Phonetic Defects: Phonetic defects should be attacked in the school curriculum at an early period. I think the earlier the better. The pupil on his first entrance to the school regime should be phonetically examined, otherwise if allowed to pass up two, three or four classes, as is sometimes the method of procedure, there is frequently much lack in getting knowledge; and lack of power to communicate, which leads to backwardness in the grades. I should therefore propose that the elimination of the phonetic defects be placed down in the first year of the primary school. When eliminated at this time children are thus given the power to hear more clearly, and to express themselves more understandingly in all the after grades. Just the details that are necessary for a teacher's education for such training will be considered at another time.

2. Stuttering. This speech defect usually occurs later in life and therefore later in the school curriculum than the ordinary phonetic defects; and therefore must be attacked at a different time in the school program. These cases need isolation, while phonetic cases can be treated in their ordinary class relationship. A stuttering case also needs much more time, more prolonged attention and careful watching. It is thus in many ways an entirely different problem from that of the simple phonetic defect. I should propose, therefore, that all stutterers be isolated from all classes and put together by themselves, and also separated from the phonetic defects. This paper does not propose to deal with the management of the treatment, but simply with the management of the problem. The details of treatment, and recommendations for training for these different classes, may be found in publications and Summer Courses on the subject. I propose at this time merely to cover the ground as to the management of the problem outside of the mere treatment.

As far as the stuttering cases, then, are concerned, I should isolate them from their own classes and from the classes of phonetics and I should place them by themselves for a systematic investigation and training along modern, scientific and psychological lines.

3. "Special Class' Defects. Teachers all know that the word "special" is merely a lay term to cover any sort of mental defect from idiocy, imbecility, feeble-mindedness, moral and mental delinquency down through the various forms of the prodigy and the "exceptional child." The special class, then, while it naturally excludes all the simple phonetic disorders as well as the stuttering cases (that are otherwise normal mentally), it does *include* a hodgepodge of mental variations which make a very complicated problem.

The isolation of the members of the special classes is not for the teachers to do. These special classes are usually formed by medical men, who on complaint of backwardness from the teachers find a diagnosis of some mental defect, and isolate them in special classes by their own authority. The members of these classes are therefore somewhat along in years, having passed through several grades before their backwardness or incapacity has been discovered; and they therefore make a problem which must be approached quite differently from any of the other problems. The special class member requires individual examination and individual treatment. It requires a careful psychological examination to see just what the elements of failure consist of. It requires a careful physical examination to ascertain whether the physique plays any role in the mental failure. Such a case also requires investigation in the family environments to ascertain if possibly the cause for backwardness does not lie there. Without going into the details of all these investigations, let me simply say that these procedures demand the methods of the psychologist, of the expert mental examiner, and the physical investigation of the school doctor. When all this data has been obtained and tabulated, then, and not until then can the expert teacher in speech defects start her work with any kind of knowledge as to what she is about. The importance of all this investigation may be illustrated in the following case: A mother with $500 in the bank writes to a lay "School for Stammerers" in the Middle West for an estimate on the prognosis for cure and the price therefor for her young boy of about six. $100 a month and complete relief from the speech defect are the terms and promise. It cost the mother her remaining $200 to send him, keep him there for three months, and bring him back. On his return there was found to be no improvement whatever. The poor woman's $500 was gone, and she comes to the medical

Consult
P. H. Harris
of
Grammar

expert for an opinion. A physical examination, followed by a careful mental examination with speech tests, shows to the medical diagnostician in about one hour that the case is an incurable case of congenital syphilis, and he is able to say that *cure is impossible.* This case not only illustrates the service that the medical expert and speech expert combined can give to the speech problem, but it also shows the need of this work before speech work is begun in the special classes. By the side, it also illustrates the extravagance and the foolishness of attempting to treat some speech cases without medical advice.

The special class, then, isolates itself, requires thorough investigation before treatment is tried, and at best, offers a very difficult and complicated problem even to the teacher who has been scientifically trained in methods of curing speech defect.

It is perhaps needless in this audience to mention the fact which is often neglected by many, that these three phases of speech defects, phonetics, stuttering, and the feeble-minded, demand from the nature of the defects themselves entirely different treatment and entirely different methods of approach to the problem. I do not at all approve of their "all being huddled together" and sifted through one method of training by untrained teachers. To put phonetic defects with stutterers is another mistake; and to leave vocal training entirely out of a special class (as is usually done) is likewise a very gross and grave error. The only way to solve the whole problem and attack it as it should be in these three phases is to isolate each part in its approach and method and have the training for each complete, scientific and psychological. I should prefer three teachers, one for phonetic defects alone; one for the stutterers alone; and one for the special classes alone. I consider it too big, too complicated, and too intricate a problem (where there are many pupils) to have the three phases of speech defects under one head. It is also just as big a mistake to have one head and several assistants each doing the whole work. There should be different specialists for these different fields, because the fields themselves demand entirely different treatment; a different mental makeup in the teacher; different means of approach, different processes of training; and other differences as of treatment.

In brief, then, have a phonetic teacher; a stuttering teacher; and a speech teacher for the special class. Let them as separate workers be under one head, perhaps; but it is a great mistake to have them all try to do everything.

The Role of the Physician. Up to this time I have made but little reference to the role that the doctor should play in the speech defect problem in the public schools. The medical side of the speech question is surprisingly unknown and unappreciated. I may also say that the medical provision in the public schools whereby the "school physician" carries forward the medical side of the school problem is also quite inadequate to the demands of the speech problem.

The ordinary school doctor knows little or nothing of the modern exhaustive field of speech defects. His knowledge is slight as to the diagnositic significance of speech disorders. His knowledge is almost nil as regards the treatment in the modern scientific and psychological sense of not only the most common but also the rarest of the speech defects. I have never seen any physician who knew more than a tenth of what was written ten years ago; and I have never seen anyone who knows what has been written in the last ten years, who has specialized at all abroad, or has studied under more than one specialist in his own country; besides this, they are usually neither psychologists, elocutionists, neurologists, nor psychopathologists. From all these fields the expert speech specialist draws his knowledge to make it complete. Anyone can see then how inadequate to the speech problem is the ordinary school physician when so many spheres of knowledge must be combined in one head to adequately approach the speech disorder problem.

What, then, can take the place of the school doctor? Only one kind of a trained man, the medical expert. To attain this distinction, as I have already hinted above, the learning from a number of fields of knowledge must be combined in one individual. To see this, one only has to hastily run over the different planes of activity that go on in one's speech mechanism. For example, there is the mouth side, which is the external speech mechanism; then there is the sensory nerve side, which goes up to the brain; then there is the collaborative side, which is located in the brain itself; then there is the motor side, which is also located in the brain in another place; and at the end of the motor side are all the different methods and agents of expression. By this anyone can see that the speech mechanism is a very intricate and complicated affair. The uninitiated merely consider it a mouth thing, merely a matter of mechanical workings of muscles and nothing more; but from this statement above, it is easily seen to be much more complicated than that! From this, one can easily appreciate the spheres of knowledge one must have in order to approach this problem. They are in brief as follows:

The properly trained medical speech expert should be trained in the usual medical methods of investigation that are employed by medical men. He should be trained somewhat along the line of the ear; he should be trained in mental tests; he should have a knowledge of brain anatomy, brain capacities and growth. He should have a knowledge of psychology, not only the mere facts and data of psychology, but he should also know how to make psychological tests and be an adept in developmental psychology. He should also be trained in dramatic art and all the methods and powers of expression. Not only these things, but he should also know all their pathology and the tests for the same, and the indications for prognosis and diagnosis that come out of all those tests. You see from this that the medical speech expert is no narrow, one-sided individual. In fact, the speech disorder problem is such a large problem and so complicated and intricate that as a specialty it demands more education and training than any other special field of which I know. All these fields are necessary for the man who would adequately and satisfactorily as a medical man approach the speech problem. I do not want to be too high in my standards, I do not want to set the ideal beyond the reach of everyone; but the problem and its intricacy demands this standard. At the present time, in this country as a whole, there are only one or two medical men that can even approach all the excellencies and training in all the fields that have been mentioned above.

From this it may now be easier to see how inadequate to the problem is the ordinary school doctor.

I mention the demands of the field and the demands of the problem merely as an introduction to the final claim that I am now about to make, which is that every speech defect,—I would emphasize this by repetition,—that *every single speech defect case* should be seen by a physician before it is handed over to any lay teacher, no matter how exhaustive and thorough her training. I consider, therefore, that the management of the speech problem in the public schools needs, more than any other one thing, the exhaustively trained medical speech specialist. Perhaps the name that I would give him is rather too highflown to be accepted in the present generation, I would therefore suggest that the term medical *speech inspector* be adopted.

Summary. Let us recapitulate. I want here to state in brief the general propositions that are contained in the body of my paper.

1. Because the ordinary school physician is untrained for the special demand of medical speech expert, I would propose that the head and guiding medical element in the speech problem should be a thoroughly trained medical speech inspector.

2. Because of frequent faulty diagnosis; and because much time and effort is wasted in treatment by lay individuals when diagnoses are unknown; I propose that *every speech case* in the public schools be first examined by the medical speech inspector; and assigned by him to the proper class.

3. Because the speech problem naturally divides itself into three distinct parts; I propose that the pupils be divided into phonetic, stuttering, and special class departments.

4. Because each of these departments demands entirely different and quite exhaustive training along one individual line; I propose that separate teachers be separately trained to do the vocal drill in each of these departments; and that they be not allowed to undertake any vocal drill in another department.

In brief, the management of the speech defect problem in the public schools demands a medical speech inspector to see all pupils and assign them to either a phonetic, stuttering, or a special class, and to have at the head of each of these divisions a teacher specially trained in one of these lines alone.

High School Standings of Pupils from Graded and Ungraded Elementary Schools*

C. O. Davis

University of Michigan

THE subject of the present study is expressed in the title above.* The results were obtained from computations upon data secured from nine Michigan high schools, viz., St. Louis, Chelsea, Buchanan, Sturgis, Howell, Spring Lake, Wayne, New Baltimore and Lyons. The study fell naturally into two parts, the first dealing with all the pupils' marks of the nine schools, irrespective of subjects, and the second with the marks of distinct groups of the same pupils given separately for the different subjects. These marks or grades are given by letters in each case, as they were in the school reports from which they were compiled.

PART I.

As just mentioned above, this part of the study has to do with the marks of all the pupils in the nine schools without reference to subjects. It consists, as will the second part also, of explanatory comment on the computations, illustrative graphs and tables, and conclusions based upon the results obtained. The investigations upon which it is based involve approximately 1100 pupils ranging for the several schools between 289 at Chelsea and 12 at Lyons. In three of the schools the number reported decreases from the first to the eighth semester, from which it is thought that the whole number in attendance was reported in these cases, the decrease showing the elimination toward the year of graduation.

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* The accompanying study was the result of a co-operative investigation undertaken by certain members of one of the writer's administration course in the University of Michigan. The data were collected by several students after they had left the University and entered upon the actual administration of schools. The material thus collected was then transmitted to the writer and was compiled by young men and young women of the succeeding class in administration. The conclusions and deductions here presented are entirely the product of the young people themselves working under the general direction of the writer. Needless to state, no one is of the opinion that sufficient data have been collected to warrant any positive conclusion. The material is merely presented in order to show the scheme of the investigators and to stimulate further effort. It is the plan and expectation of the writer to continue to accumulate material on the same subject and he has at the present time a group of his former students gathering further facts with this end in view.

The investigators of this report were the superintendents of the schools in seven of the smaller towns of Michigan, one high school principal, and one class room teacher, namely C. D. Dawson (St. Louis), F. Hendry (Chelsea), A. Watkins (Sturgis), E. L. Abell (Howell), E. Winter (Spring Lake), R. E. Roycroft (Wayne), A. Rather (New Baltimore), E. Soule (Lyons), and N. Richmond (Buchanan). The compilers of the data and the writers of the descriptive material are M. E. McCarty and C. E. Wenger.

In the remaining six schools the number of graded and ungraded school pupils is definitely given and remains constant for the four years. Obviously it is only graduates that appear in these cases. Here it was only the number of boys and girls that had to be determined. The common suggestion under which all the investigations were made was that one mark was to be counted for each subject pursued each semester by each pupil, and that, since each pupil ordinarily carries four subjects, the total number of marks for each school in any one semester would usually be just four times the number of pupils. The number of marks was definitely given in every case. By dividing this number by four, then, the number of pupils and the number of each sex as well could be fairly accurately determined.

In two of the schools, Chelsea and New Baltimore, the number of pupils by semester and by sex were both given and a comparison of these served as a check upon the results in the other cases where the numbers were computed by the above method. Where the numbers are not constant and elimination is not active there are scarcely any variations and the few found are so small as to be easily explained by the usual variations in school attendance.

The number of marks given per semester in each school ranged from about 1100 in Chelsea to approximately 50 in Lyons. The number was computed separately for the graded and the ungraded school pupils and also for the boys and girls within each of these groups, and upon this basis the range in number of marks ran from 288 given the graded school girls at Howell in the eighth semester to 4 given graded school boys at Wayne in the same period. For the whole nine schools together the range was from 1541 marks given the graded school girls in the first semester to 432 given the ungraded school boys in their seventh semester.

The ranges above are given chiefly to convey an idea of the number of pupils and marks involved so as to enable one to judge better of the value of whatever conclusions are made. They may also serve to show that the number of graded school pupils is always larger than that of ungraded ones, unless a fixed equal number is selected to report, and the number of girls is also far in excess of the number of boys. The three schools where elimination was active upon pupils involved in the reports had much to do of course in causing the first semester numbers to exceed those following.

The investigations covered various periods ranging from two years in Spring Lake and three in Lyons to sixteen years in New Baltimore. In some of the schools all the pupils were investigated for a long period and in others only a small group for a single high school cycle. All sorts of pupils, therefore, are represented, not merely a select group either of graduates or of brilliant pupils from select epochs in the histories of the schools studied.

The initial letters of the alphabet were used as a grading system in all nine of the schools. Three of them, however,—Sturgis, Howell and Lyons,—used a trinodal system, giving no D's nor E's.

The total number of each of the five sorts of marks for each school were tabulated for each sex and semester in separate tables for the graded and ungraded school pupils and a computation table was then made showing what per cent. these separate totals were of the whole number of marks given in each case. To illustrate, in the first semester of high school the boys of Sturgis from ungraded elementary schools were given 8 marks of which 4 were A's and 4 B's. The computation table, therefore shows 50% A's and 50% B's. In a like manner all the groups and periods in the nine schools were dealt with and the results for the ungraded and graded schools placed one above the other for comparison. The percentages of each of the five marks for each sex and semester were then totaled for all the schools, with the results for graded and ungraded school pupils in contrast as before. Table I following shows the totals for A's and B's computed in this manner through the eight semesters. For convenience the graded and ungraded school pupils will hereafter be referred to as resident and nonresident,—or boys and girls as the case may require.

The resident boys are seen to have an advantage in the percentage of A's in all but the sixth and eighth semesters where

TABLE I.

PERCENTAGES OF A'S AND B'S BY SEMESTER FOR NINE SCHOOLS

	A's							
Semesters	1st	2nd	3rd	4th	5th	6th	7th	8th
Nonresident Boys	28.6	27.9	32.3	37.2	36	38.6	41.2	47.4
Resident Boys	29.7	34.3	34	38.1	37.3	35.8	41.4	42.5
Nonresident Girls	39.4	46.7	44.6	48.2	49.2	53.3	55.3	41.9
Resident Girls	41.3	47	43.3	47.9	47.8	50.7	51	52.5

	B's							
Semesters	1st	2nd	3rd	4th	5th	6th	7th	8th
Nonresident Boys	41.8	48	38.7	38.3	39.8	39.6	36.1	34.1
Resident Boys	42.6	41.9	42.3	40.5	39.9	44	39	43.2
Nonresident Girls	43	40.1	40.9	38	36.9	34	32	37.1
Resident Girls	40.3	36.8	42.5	37.8	36.6	34.8	34.7	35.5

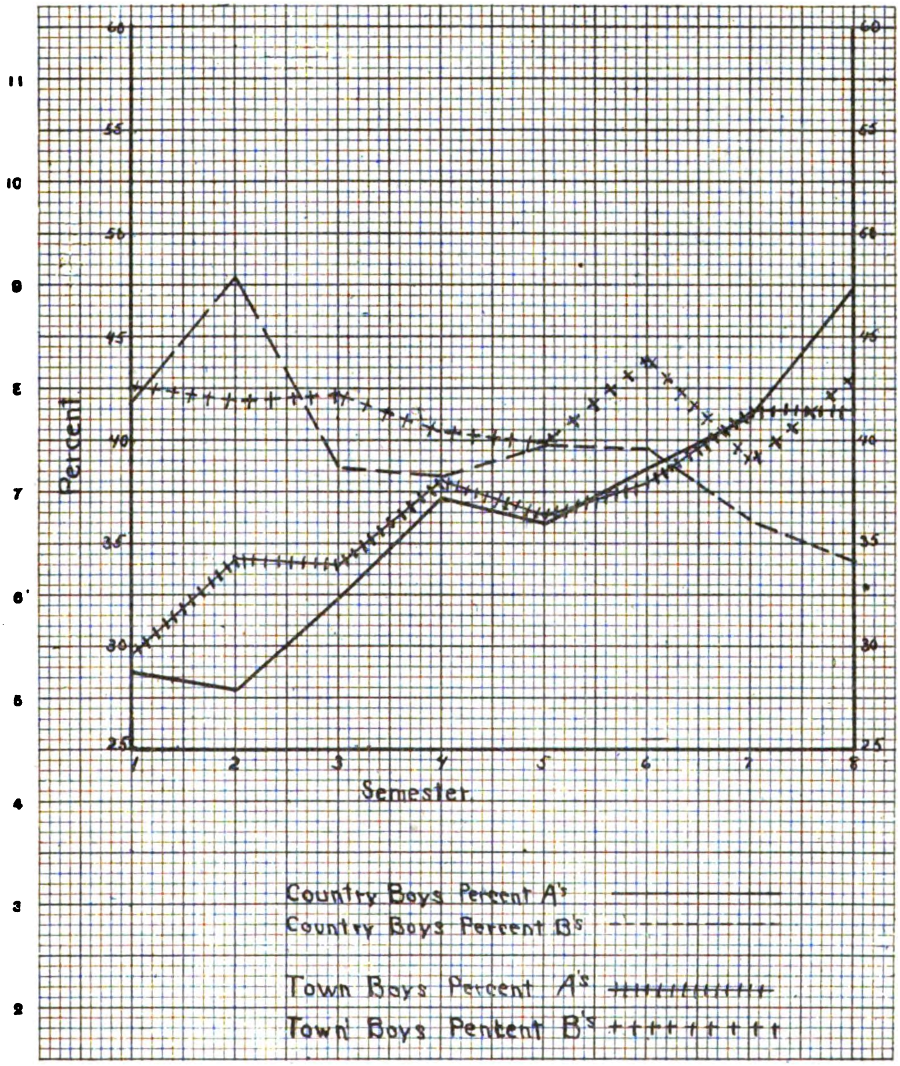
they are at a 2.8 and 4.9% disadvantage respectively. The resident girls, on the contrary, have a slight advantage only in the two first and the last semesters while the nonresident girls excelled in the other five.

In B's, too, the resident boys are ahead, and here for all but one semester, the second, where they are outdistanced by 6.1%. The resident girls again fall behind the nonresidents in three semesters, the third, sixth and seventh.

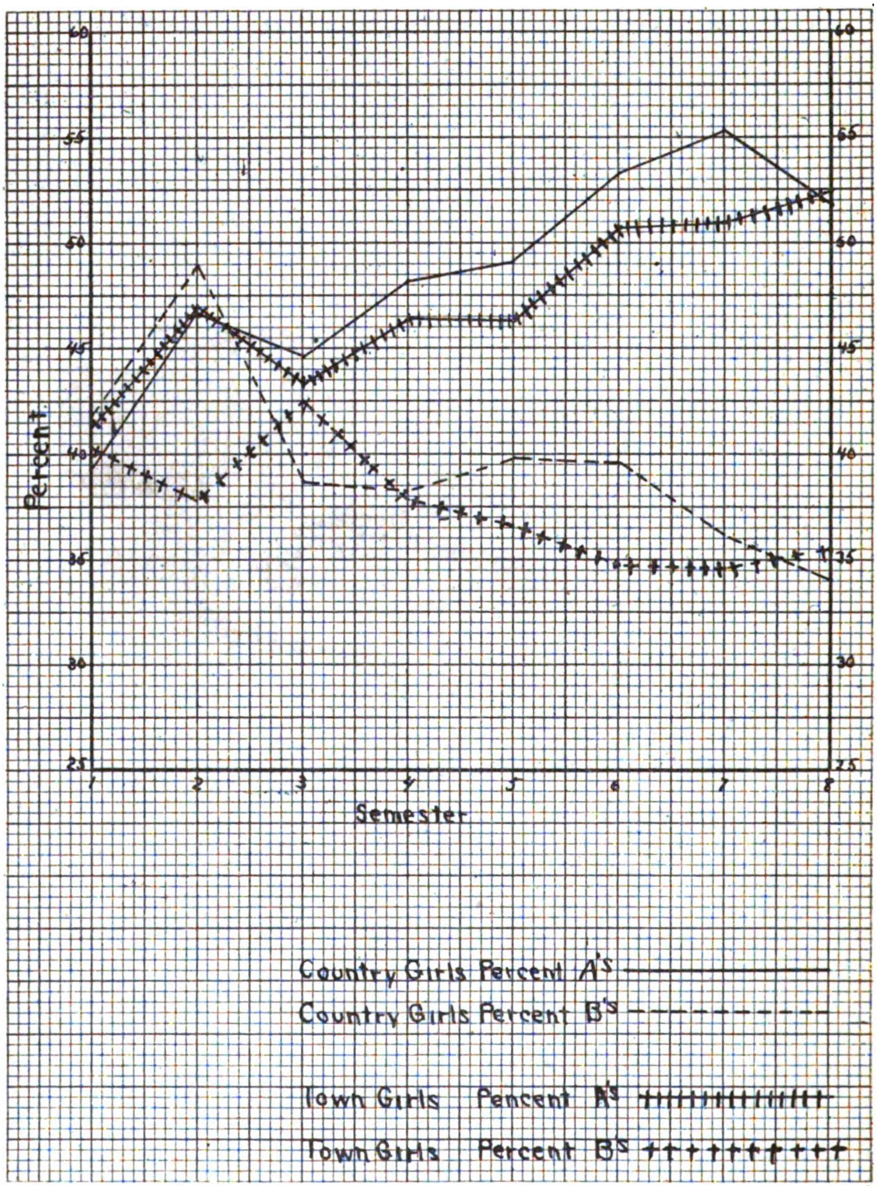
The graphs numbered (1) and (2) which follow serve to emphasize the variations between residents and nonresidents as shown by the table. They are self explanatory, Number (1) shows the percentages of A's and B's for boys and Number (2) those for the girls.

By averaging the percentages in Table I for the eight semesters and then combining the results for boys and girls in each group one is able to get a single figure by which to express the relative standings. Table II below shows the results of this process. The figures obviously represent the percentages for the whole four years of high school and are reduced to extremely small terms by the constant averaging.

It is easily seen that any wide variations in the percentage of either mark for the resident and nonresident pupils within different schools would be entirely obscured by the averaging of the results from the nine schools together as was done above.


Percent
Semester
60
55
50
45
40
35
30
25
1
2
3
4
5
6
7
8
11
10
9
8
7
6
5
4
3
2
Country Boys Percent A's
Country Boys Percent B's
Town Boys Percent A's
Town Boys Percent B's

GRAPH I


60
55
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25
60
65
50
45
40
35
30
25
Percent
1
2
3
4
5
6
7
8
Semester
Country Girls Percent A's ————————
Country Girls Percent B's - - - - - - - - -
Town Girls Pencent A's ++++++++++++++
Town Girls Percent B's +++++++++++

Graph II

TABLE II.

Average Percentages of A's and B's for the Eight Semesters

A's

Nonresident Boys	36.1%	
Resident Boys		36.6%
Nonresident Girls	48.6%	
Resident Girls		47.7%
Advantage for the Resident Boys		.5%
Advantage for the Nonresident Girls	.9%	
Total Advantage for the Nonresident Pupils	.4%	

B's

Nonresident Boys	39.5%	
Resident Boys		41.8%
Nonresident Girls	37.8%	
Resident Girls		37.4%
Advantage for the Resident Boys		2.3%
Advantage for the Nonresident Girls	.4%	
Total Advantage for the Resident Pupils		1.9%

To illustrate these wide variations a separate computation was made in which the results for the eight semesters instead of for the nine schools were averaged. The results by this method show the following comparisons which are in marked contrast to those obtained by the former process. The table is Number III and shows the computations for A's only.

TABLE III.

Percentages of A's by Schools for all Eight Semesters

I—Nonresident boys.
II—Resident boys.
III—Nonresident girls.
IV—Resident girls.

	I	II	III	IV	I	II	III	IV
St. Louis	49	43.5	51	52.4	5.5			1.4
Chelsea	23.9	21.9	43.7	50.7	2			7
Buchanan	52	43	62.6	50.2	9		12.4	
Sturgis	60.5	71.9	68.7	71.9		11.4		3.2
Howell	37.8	42.8	47.2	51.1		5		3.9
Wayne	26.4	22.3	45.1	49.1	4.1			4
Spring Lake	18.2	23.5	22.4	33.6		5.3		11.2
New Baltimore	21.6	11.5	26.1	18.8	10.1		7.3	
Lyons	65.3	17.9	45.9	59.3	47.4			13.4
Totals in Advantages					78.1	21.7	19.7	44.1

78.1—21.7 = 56.4% of A's to the final advantage of nonresident boys.
44.1—19.7 = 24.4% of A's to the final advantage of resident girls.

Subtracting = 32% of A's to the final advantage of nonresident pupils.

(The last four columns represent the advantages for each group and are obtained by subtracting I and II and III and IV, referring now to the first four columns. The averages in the case of Wayne are only for four semesters and those for Lyons only for six, since those periods only was reported for each of these schools.)

A study of the table will soon convince one that it would hardly show results suitable as a basis from which to draw valid conclusions. It is given merely to show the wide variability in the percentage of the different marks given in the various schools. These variations are a serious reflection upon the grading systems, or perhaps better to say upon the lack of system in grading in our schools. That there is no common standard among teachers in the matter is well proven by the table above where one school is seen to be giving 71.9% of A's to the resident boys while another school is only giving 11.5% to the similar group among its attendants. If one goes back to the computations from which the above table is derived the variability is still further emphasized. It is discovered there, for instance, that in one school, New Baltimore, no A's at all were given during three of the eight semesters to the resident boys. On the other hand, it is found that Lyons in no case gave its nonresident boys less than 50% of the superior grade. Other extremes almost as startling are easily found.

Obviously such extremes as those found above must be correlated and counterbalanced if one is to have results from which to draw conclusions that will have a valid significance. By averaging the percentages for all of the schools as was done to secure the results in Tables I and II such a counterbalancing was achieved. By that method the extremes in one direction were balanced against those in the opposite direction and a reasonable mean thereby obtained. Upon the basis of the results secured in that manner one may draw the following general conclusions:

1. Boys from ungraded elementary schools average lower in their high school grades during the first five semesters of their school course, run about equal with the graded school boys through the sixth and seventh semesters, and then take a decided advantage in the last semester.
2. The nonresident girls receive lower grades than the resident ones during the first two semesters in high school, overtake them in the third and win an increasing advantage which culminates in the seventh, after which they again drop a margin below in the final half year.
3. Both resident and nonresident girls receive higher grades than boys all through the high school course, ranging about 10% higher in A's and a small percentage better in B's also.

4. In general, as the number or percentage of A's increases that of the B's decreases.

5. The number or percentage of A's received by both resident and nonresident pupils and among both sexes tends gradually to increase during the high school course.

6. There is considerably more variation between boys' and girls' grades in any of the five sorts of marks given than there is between the graded and ungraded school pupils.

7. The number of D's and E's given is almost negligible, ranging less than 5% of the whole number of marks in every case.

8. For all school during the whole four years the nonresident pupils have .4% the advantage in the number of A's received while the resident group has an advantage only of 1.9% in B's. (A's are generally considered to have 10 points more value than B's. Upon this basis the .4% advantage of the former group would give them a superiority of 4 points while the 1.9% advantage of the residents would still only give them 1.9 points superiority. Subtracting, the nonresidents would be found 2.1 points in the lead.)

The discovery of such facts as these set forth above lead one to search for explanations. So many factors enter into the matter which can be but little known by investigators not themselves on the ground that much of the attempted explanatory matter of such investigators becomes largely speculation. Upon principles which seem established from general experience, however, one may quite accurately ascribe reasons for some of the variations, at least, that were found.

The comparatively low grades at first of both boys and girls from the ungraded schools is undoubtedly due chiefly to the strangeness of the new high school environment, not only as to material surroundings, but in new methods, companionships and in everything pertaining to the new school life. The advantage that this same class gains over the graded school pupils later in the high school course is often alleged to be due to the greater selection at work in determining the attendance of high school by rural pupils. Being a more select class, as soon as they become accustomed to the new surroundings they outdistance the larger but less selective group from the graded elementary schools of the city. But why this advantage should be lost in the last semester of their high school life by the rural school girls is quite a puzzle. It may be merely an accident peculiar to the present study, but it is more likely that the extra effort and nerve strain which commencement means to the nonresident girls is a considerable factor in the matter. Whatever the explanation the nonresident boys in this final semester take more than a counterbalancing advantage over the resident ones, so the rural pupils are still slightly in the lead on the whole, having .4% more A's to their credit for the eight semesters, as was seen by Table II above.

PART II.

As part one of the study dealt with the relative standings of resident and nonresident pupils in high school with reference to all their school work, this second part now aims to study these relative standings with particular reference to the subjects pursued. Eight subjects were sufficiently represented in the reports to become a part of the study and the two that were not, composition and agriculture, had some data which could be combined with more of the same sort for a worth while study later. The subjects represented are algebra, geometry, Latin, German, English, history, physical science and biological science.

The number of pupils was not given in the reports from the several schools, but the marks being here all final marks, the two numbers would practically coincide throughout for each subject. This number of marks given ranged, for all pupils, from approximately 5000 in English to about 1100 in biological science.

Taken by resident and nonresident pupils the total number of marks given by subjects ranged from slightly over 3000 given to graded school pupils in English to about 500 given ungraded school pupils in biological science. The ranges show here again that the resident pupils are in the majority. They also show what subjects are most frequently studied by the high school pupils, English being considerably in the lead, history second, and biology and German respectively the least popular, or, at least, the more rarely taken. There is no division for the sexes in this part of the study so the ranges have no significance in that direction.

The same schools are here represented as in part one, except that Wayne is omitted, no report having been received from it for the standings of its pupils by subjects.

The percentage of A's, B's, etc., given in each school and subject were computed after the manner used in part one and the results tabulated separately for resident and nonresident pupil as before. From the showing of these computations graphs and tables are again made, and discussions and conclusions find a basis.

It will be remembered from the showing in Table III that there were wide variations in the number of marks of each sort given within the various schools. This variation appears also when the marks are studied with reference to subjects. The total percentage of A's given by each school for all eight subjects combined is therefore first presented and the percentages by subject for all the schools combined is left as a basis for more valid conclusions later. Table IV, which follows, is presented, therefore, merely to show the extreme variability within the schools, serving the same purpose as did Table III in the previous case. The results were obtained by averaging the per cent. of A's in all subjects for each school.

TABLE IV.

PERCENTAGES OF A'S BY SCHOOLS FOR ALL SUBJECTS

	Percent. Received		*Percent. of Advantage*	
	Nonresidents	Residents	Nonresidents	Residents
St. Louis	45.3	43.6	1.7	
Chelsea	32.6	37.8		5.2
Buchanan	60.3	48.4	11.9	
Sturgis	54.2	73.2		19
Howell	44.7	48.5		3.8
Spring Lake	17.4	29.3		1.9
New Baltimore	16.5	14.4	2.1	
Lyons	34.8	29.1	5.7	
Total Advantages			21.4	39.9

39.9—21.4 = 15.5% of A's to the advantage of resident pupils.

That widely different principles of grading must have been used in the schools is abundantly proven by the above table. The per cent. of A's given is seen to vary from 14.4 for the resident pupils of New Baltimore to 73.2 for the same group at Sturgis. To see the unfairness there would be in using such a table to base conclusions upon one has only to note that Sturgis gives so high a percentage of A's that there is room for an advantage of 19% for the resident pupils, while this advantage alone is greater than the total number of A's given to either group at New Baltimore. The per cent. given in the latter school being small, the difference between the per cent. given each group was forced to be still smaller, being actually 2.1% in this case. To these extremes is due the surprising total advantage of 15.5% for the resident pupils. To overcome these irregularities or extremes the schools must be averaged if the results are to have any valid significance. To this process and its results we now turn.

In the computations by which the results are obtained for our conclusions the B's as well as the A's are again included as they were in part one. The process used has been referred to as an averaging of percentages of each mark for the eight schools, but this is not an exact description of what was done, although the results are practically those obtained by averaging. The exact method used was to add the A's given in all the schools for any one subject and then determine what per cent. this number was of the total number of marks given in the same subject throughout the eight schools. For example, it was found that there were in all 710 marks given the nonresident pupils in geometry of which 351 or 49.5% were A's. The complete results for A's and B's in all eight subjects are found in Table V below.

TABLE V.

PERCENTAGE OF A'S AND B'S BY SUBJECT FOR EIGHT SCHOOLS

A's

	Alg.	Geom.	Lat.	Ger.	Eng.	Hist.	Phys. Sc.	Biol. Sc.
Nonresidents....	37.8	49.5	52.1	50.4	45.6	41.6	39.4	41.6
Residents.......	35.5	41.4	45.4	48.6	48.1	48.6	39	40.2
Differences......	2.3	8.1	6.7	1.8	—2.5	—7	.4	1.4

B's

	Alg.	Geom.	Lat.	Ger.	Eng.	Hist.	Phys. Sc.	Biol. Sc.
Nonresidents....	42	35.2	34.5	28.9	33.8	38.1	40.7	42.4
Residents.......	41.2	36	35	33	37.2	34.8	44.8	45.7
Differences......	1.2	—.8	—.5	—4.1	—3.4	3.3	—4.1	—3.3

(The — sign is prefixed to differences disadvantageous to nonresidents.)

A study of the table discovers that the nonresident pupils range from 8.1% to .4% better than graded school pupils in A's for all but two of the subjects, their highest and lowest advantage being in geometry and physical science respectively.

The two subjects where they fell below were English and history, the amount of disadvantage being 2.5% for English and 7% for history.

A like study with reference to B's shows the same group in the lead in only two of the eight subjects, their advantage being .8% for algebra and 3.3% for history. The resident pupils have an advantage in the other six subjects ranging from .5% in Latin to 4.1% in both German and physical science. Graphs (3) and (4) following serve to illustrate these variations and include C's also.

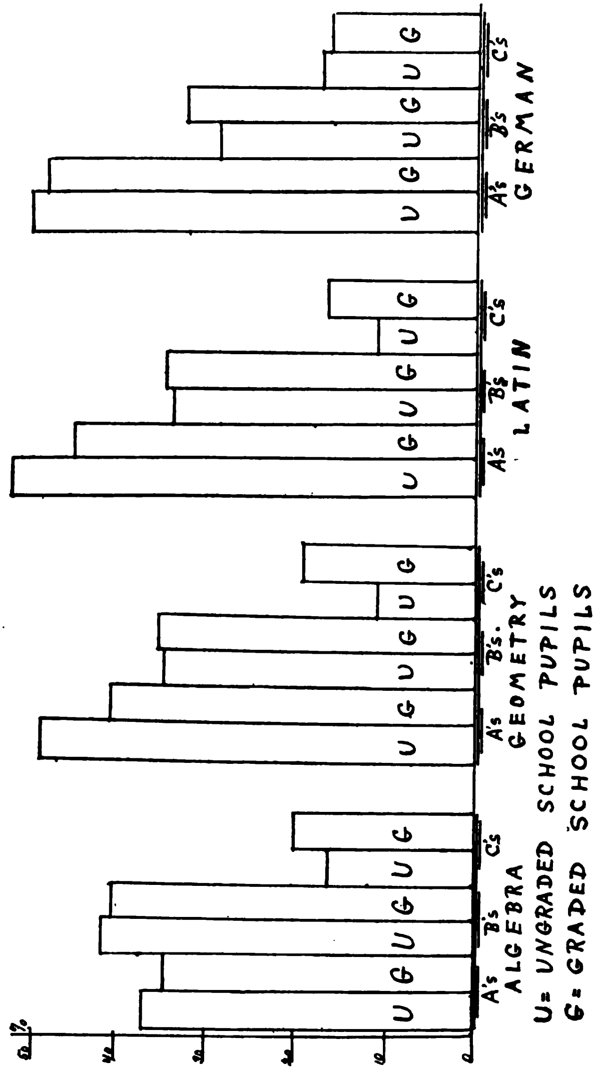
A disadvantage for the nonresident pupils in both A's and B's is found in English, but this is made up for by their advantage in both marks in algebra. By averaging the percentage of A's in the table for all eight subjects one comes upon these results:

Nonresident Pupils	44.7%
Resident Pupils	43.3%
Advantage for the Nonresident Pupils	1.4%

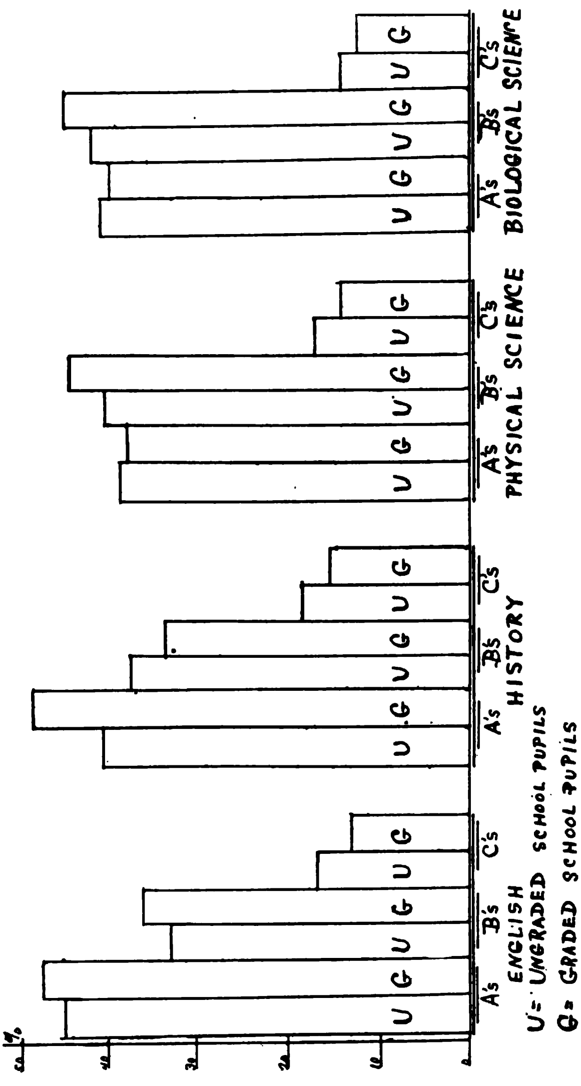
A similar computation for the B's shows an advantage in that grade of 1.6% for the resident pupils. (If these advantages in A's and B's be compared according to points, with A's valued 10 points more than B's, the nonresidents are found to be 12.4 points to the good.)

In seeking an explanation for the advantage of the nonresident pupils over the resident ones in six of the subjects and their disadvantage in the other two one is obliged again to glance back to their earlier schooling. For algebra, geometry and Latin where their advantage is greatest, the nonresidents are undoubtedly given preparation during their elementary education by the formal drill in the processes and definitions of arithmetic and in the rules, conjugations and declensions of English grammar. This formal and routine presentation of the subjects takes little skill and the mediocre teachers which are so often forced upon the rural schools are seldom qualified with any other method. The rural pupils are therefore poorly taught in English and history where the formal methods are least effective and consequently fall below their fellows in these subjects in high school. English, in fact, is hardly taught at all in most of the rural schools of Michigan except for a few months cram in preparation for

GRAPH III


%
0
10
20
30
40
50
U G U G U G
A's B's C's
ALGEBRA
U G U G U G
A's B's. C's
GEOMETRY
U G U G U G
A's B's C's
LATIN
U G U G U G
A's B's C's
GERMAN
U= UNGRADED SCHOOL PUPILS
G= GRADED SCHOOL PUPILS

GRAPH IV


%
50
40
30
20
10
0
U G U G U G
A's B's C's
ENGLISH
U G U G U G
A's B's C's
HISTORY
U G U G U G
A's B's C's
PHYSICAL SCIENCE
U G U G U G
A's B's C's
BIOLOGICAL SCIENCE
U = UNGRADED SCHOOL PUPILS
G = GRADED SCHOOL PUPILS

the County Eighth Grade examinations and perhaps the memorization of a few short poems.

Most graded schools, on the contrary, where they invariably have better prepared teachers, give considerable time to composition and the appreciative study of literature and history and comparatively little to formal grammar and to the memorizing, alone, of poems, or of dates and isolated facts of history. Such schools have their grammar school pupils spend more time on English and history and less on arithmetic and formal grammar than is done in the rural schools and as a consequence their pupils are perhaps less well prepared for the mathematics and classical languages than are the rural pupils when they come on to high school. This is especially true in the smaller high schools of the state since these schools still tend to present their mathematics and classical languages largely from the disciplinary standpoint. Altogether one may say that the rural pupils are prepared in their earlier schooling for the subjects in which they fall below. Just the same reflection would hold for the resident pupils where they are in the lead.

The general conclusions for this part of the study have practically all appeared in the discussion. They may be summarized in a few brief statements as follows:

1. The resident pupils have an advantage over the nonresidents only in English and history, the more indefinite subjects. The nonresidents have a considerable advantage in mathematics, languages and science, which are the more definite studies, the ones where formal methods are most effective. The advantage of the latter group by subject is as follows,—algebra 2.3%, geometry 8.1%, Latin 6.7%, German 1.8%, physical science .4% and biological science 1.4%. The disadvantage of the same group is 2.5% in English and 7% in history.

2. For all the subjects taken together the nonresidents have an advantage of 1.4% in A's and only 1.6% the disadvantage in B's whereby it may be said that the nonresidents excel in the superior grades obtained in high school.

3. The weak points for rural pupils in high school are English and history. The resident pupils surpass them in English for both A's and B's.

4. The nonresident pupils seem to have a special excellence in mathematics. They surpass the residents in both A's and B's in algebra and have an advantage of 8.1% of A's in geometry.

In conclusion it may be said that the study in neither of its parts is extensive enough to be urged as positive evidence of conditions which generally exist. It is believed, however, that it does show tendencies among the type of schools studied. The vast number of such schools would suggest that a study more intensive as well as extensive would be abundantly worth while.

If there are subjects in which nonresident pupils tend to excel and others in which they tend to fall below their resident school fellows, as the present study seems to indicate, and if there are periods in their high school cycle when the same group tends to fall below in all the work and other periods in which it tends to excel in all, then the causes for these phenomena ought surely to be sought. The causes once known it would be a far more easily achieved function of our schools to provide the corrections which such conditions cry for.

DISCUSSIONS AND COMMUNICATIONS

FAIRER EVALUATION OF THE PUBLIC SCHOOL PRODUCT. AN ATTEMPT TO EXTENUATE THE "IGNORANCE" OF THE PUBLIC SCHOOL GRADUATE

Albert J. Levine
Brooklyn, N. Y.

AN Arab once went to a neighbor to borrow a rope. "I can't lend it to you," said the neighbor, "I need to tie up five cubic feet of water with it." "How can you tie up water with a rope?" sneered the would-be-borrower. "My friend," said the neighbor, "Allah is great and he permits one to do strange things with a rope—when one doesn't want to lend it." The school graduate lacks much to render him efficient. But his critics are sharing that supernal power of Allah that permits them to make wonderful statements, when once they set out upon a journey of criticism through personally conducted high ways of selected facts. One can see only what one wishes to see when one narrows the horizon sufficiently.

One has still to find the System that can secure uniform results from the human element of an organization. The school machinery is turning out a product of varying degrees of efficiency—or inefficiency as some critics would have it—because, unlike industrial material, the raw material, the pupil, is not of uniform quality because of the exigencies of heredity and environment. No two children are alike and the same child may exhibit qualities usually assigned to diametrically opposed personalities.

One must not expect too much of a teacher. The Street and the Home do not always supplement the School and teaching will fail of maximal success just so long as the five hours of "I have gone," are offset by the remaining hours of "I have went." The children undoubtedly learn a great deal in the Home and in the Street but many teachers duplicate the experience of the mother who gave Willie a nickel not to repeat a naughty word. He went back to his play to return immediately with the cheerful news: "Mamma, I know a word that's worth half a dollar." One is reminded of the example:

If one pipe fills a tank in 4 hours and another empties it in 5 hours, how long will it take to fill the tank?

"If the fundamentals—arithmetic, grammar, spelling, reading, writing, geography"—one critic writes complainingly, "were hammered into the pupils they would enter their struggle in life infinitively better equipped than is the case now." One wonders at the tenacity with which so-called educators cling to the belief that learning is the sine qua non of the worth of an individual. The Renascence worshipped this fetish and words constituted the chief mental food. Memory was exalted and the mind became a store of knowledge. But a change soon came about. Virtue, wisdom, good manners *and* learning exercised the mind and the pen of such distinguished writers as Montaigne, Rabelais and Mulcaster.

One fervently hopes that the future will excel the past, but to ignore the experience of the educators of the past is to court disaster. To equip a child with facts—useful facts—is a comparatively easy task. A teacher can "discipline" a child into memorizing any thing, and, given a fair extent of time, the number of facts a child can accumulate can fill a large-sized book. Human "parrots" are more efficient than feathery ones.

Knowledge (of the right kind) is Power. But knowledge is not merely fact absorption. Intelligence is not measured by one's ability to store and retain facts; it is gauged by the readiness to apply the knowledge already learnt to new situations. In the words of Stern, "Intelligence is a general capacity of an individual consciously to adjust his thinking to new requirements: it is a general mental adaptability to new problems and conditions of life." No one has as yet found an infallible way of testing intelligence. Knowledge of facts—even fundamentals—does not constitute a criterion of school efficiency, even though that knowledge is, admittedly, a desideratum for the keening of the mental powers.

One readily admits the justice of many of the strictures made against our Schools. But one can't adjust a system in a week. The European countries have worked out a system of vocational education because their governments have assumed all oversight over apprenticeship and Trade Schools. Our industrial system is more complicated and the freedom of the individual will not brook governmental paternalism. Individual initiative and local enterprise must solve our problems of vocational education and many schools are doing good work towards fitting the child for "life" and for a "living."

Vocational training should prepare scientifically for a "living." One of the sad tragedies of life is the placement of "square pegs" into "round holes." Many a "peg" is utterly unsuited for the "hole" because educational, hereditary and environmental moulding has given it a "squareness" that renders it unfit for the "roundness" of an industrial demand that is created independently of the "peg's" educational and environmental influences. The professions are overcrowded and the industries are creating new fields. Not so much head work as hand work, is the new concern of the schools. But industry is heartless. It looks for efficiency. It hasn't time to whittle down the "peg" to make it fit. It must get material ready to hand.

A great deal of the present unrest in the industrial world is traceable to the failure of the laborer to adjust himself or herself to the exigencies of modern machinery. Too many are trying to get twentieth-century prices for seventeenth-century quality of skill and training. The "lame ducks" in our school system need guidance. But our vocational schools should be organized upon an elastic scheme to enable them to supply the number of "hands" that can be safely absorbed by the interests desiring their services. The demand for vocational training is gaining adherents daily. The danger that lurks in such an undertaking attends all social innovations that call for a permanent organization.

The number of so-called misfits is bound to decrease under a vigorous system of trade guidance, and a slackening of the demand for its continuance will come with time. The building and equipment that will come into being will serve a declining need as time goes on. But the teaching staff and the plants installed will keep on grinding to empty hoppers and those immediately interested, whether as teachers or supervisors, will exert all influence to constrain the educational authorities to keep those hoppers filled with grist. This may result in a condition of over-manning the trades till a vigorous protest calls a halt. We should be chary of rushing into building too large a plant for the possible future output.

More important than a virtual guarantee of obtaining a lucrative position is the undeniable necessity of educating the child for the duties of life in society. The aim of all education is complete living. To earn a living is part of complete living. But one can engage in profitable employment without living in the joyous, altruistic, inspirational and spiritual sense of the word. In the words of Mr.

F. D. Maurice, "I know that nine tenths of whom the university sends out must be hewers of wood and drawers of water. But if I train the ten tenths to be so, depend upon it the wood will be badly cut and the water spilt." One must hitch the child's cart of practical necessity to the star of a comprehensive, all-inclusive schooling.

New York is doing all it can under the circumstances to make education more practical. Trade Schools for graduates, and continuation classes for those employed, are increasing the childs chances to earn a living. The Board of Education is establishing more such schools. Many schools are giving courses in Vocational subjects (including commercial training), on their initiative. The moneys needed to support such activities are raised by the principal and teachers. Public School No. 58 Brooklyn, has been instructing some hundred children in Typewriting, Dressmaking, Stenography, Telegraphy, Electrical Wiring, Embroidery, Commercial Art and Printing.

The scope of these trades is fairly definite. One can hope to anticipate probable demands upon the child's skill, and prepare him to meet them. But one can readily see that to prepare a child to enter "business" is too vague an undertaking. Is any critic prepared to say just what words a boy should be taught in his Spelling? Just how many words out of the huge mass in our Language are "business" words? Just how many kind of commercial pursuits require a minute and ready knowledge of Geography? No one is prepared to deny the desirability of a thorough grounding in the Three R's. But who will point out, with some adequate particularity, the kind of knowledge the school should impart? How much reading should a graduate do to fit him for a business life? What proficiency shall a child achieve in writing to be admitted into the ranks of the workers?

Diverging views upon the paramountcy of the fundamentals will continue to prevail as long as we over emphasize intellectual attainment, glibness of tongue and readiness of reply. While intelligence is the wind that fills the sail, character is the pilot that guides the ship of life. Character will always be open sesame to advancement. The misfits that flood the labor markets drift into the ranks of the down-and-outs not so much because their arithmetic is poor and their spelling faulty; it is rather because they have not been shown the three rungs of the ladder to success: Courtesy, Self-denial and Industry. An adding machine can hide mathematical ignorance and a typist can furnish orthodox spelling at so much per thousand words. But no contrivance has yet been devised that could successfully substitute for honesty and politeness.

The cry is also heard that children spend far too much time in the Public School. The advocates of the six-year course are many. Those who place a time limit upon schooling are loud in their praise of methods and devices—pedagogic sleight-of-hand—that only have the merit of originality and that are calculated to "speed up" the child's power of absorption. These critics forget that hot-housing a child's faculties often produces a species of a Frankenstein with the body and instincts of a child and the head of a mature youth. Mental vigor can not be reached cross-lots through the narrow path of a predigested intellectualism. The child must have time for reflection even if indulged in in the rare intervals between games. We must not waste time, but we must give the child time to grow inwardly.

If criticism is fault-finding our school critics are assured a fertile field. The short comings of our public schools are legion. The more so if quantitative expressions of externals is the basis of their reasoning. But statistics are only valuable in so far as they disclose causes and reasons and thereby indicate a way to bettering conditions. New York City must meet problems peculiar to this metropolis. Many of the pupils are foreign born and their use of language is of slow development. Others are impeded in their scholastic achievements by hereditary limitations, not the least of which is a manifestation of an inability to excel in all studies of the curriculum. Many children can not grasp the intricacies of mathematics. But such a pupil may atone for this handicap by an excellent performance in the languages. Shall we say then that Sir Walter Scott was a victim of poor schooling just because he was dullard in his school tasks?

But the school critics are guilty of a greater fallacy in assuming that the school is the educational agency, par excellence. The home, the church, the street, must shoulder part of the blame. The church hasn't the hold it ought to have. Parents are coming to lean increasingly upon the school authorities and teachers might as well shoulder the burden now as later. There is no reference here to the favored homes. But the large active majority of the people are not, at the end of a hard day's work, in the state of restfulness that characterizes the temper of parents of the leisured classes. If our public schools are the "melting pot" we might as well remove all impurities during the refining process. But the school can't do it alone. Just as long as there is lack of supplementation by these powerful educative elements just so long will the school graduate continue to be poorly equipped for the struggle of life.

THE QUESTION OF FORMAL GRAMMAR

Edwin Fairley
High School, Jamaica, New York City

THE study of formal grammar is almost valueless so far as teaching correct speech is concerned. A recent investigation in New York City revealed the fact that we are spending 42% of the time available for English in the elementary schools in the study of formal grammar but the results of this study are deplorable. Our critics say with some truth that the graduates of our schools cannot compose a decent sentence, they cannot even write an ordinary letter. So that we are right, in saying that formal grammar fails just where its advocates say it succeeds.

As a matter of fact, English is almost a grammarless tongue. Most of our formal grammar comes from the effort to impose the categories of Latin upon English. We have no such things as the agreement of adjectives, declensions, no cases except the possessive, and our verbs often function as nouns.

Formal grammar is often a hindrance rather than a help in correct speech. We think in sentences, while grammar is concerned principally with the relations of words. If one tries to think of syntax while he is carrying on a connected train of thought, the thought suffers, and he loses his effectiveness.

The school time now consumed in the study of formal grammar can be better spent. If we should use it for drill in the accepted forms of correct speech, for reading aloud, and for oral composition, both we and our pupils would be better off. The passing of the reading book is to be deplored, for it was a fine drill ground for some of the better things in speech and expression.

In every school much depends upon the principal. He and he alone can insist upon co-operation of the various departments to secure better speech and writing.

BOOK REVIEWS

A SET OF GRADED TEXTBOOKS ON RELIGIOUS EDUCATION

(The University of Chicago Press)

KINDERGARTEN DIVISION

(Ages 3–5 years)

The Sunday Kindergarten: Game, Gift and Story. Carrie S. Ferris, 1909, $1.50, pp. 271. Permanent equipment for pupil $1.50. For both trained and untrained kindergarten teachers. Each lesson has story, games, table work, songs, and story folder for children—themes mainly biblical.

ELEMENTARY DIVISION

Grades I, II and III (Ages 6–8 years)

Child Religion in Song and Story. Georgia L. Chamberlin and Mary Root Kern, 1909, $1.25 per volume, with accompanying pupil's notebook, 50c each. Forty lessons, mostly biblical, and fifty songs, in many cases specially prepared, in each volume. Appropriate material for use of children. The volumes are interchangeable and all three grades may use the same volume in one year.

Vol. I—The Child in His World, pp. 250.
Vol. II—Walks with Jesus in His Home Country, pp. 256.
Vol. III—In preparation.

Grade IV (Age 9 years)

An Introduction to the Bible for Teachers of Children. Georgia L. Chamberlin, 1904, pp. 205, $1.00, pupil's notebook 25c. To interest children beginning to read in the most fascinating stories of the Old and New Testaments. The Teacher's Manual outlines the method and there are notes to arouse thoughtful interest in the pupil.

Grade V (Ages 10–12 years)

The Life of Jesus. H. W. Gates, 1906, pp. xxvii and 156, 75c, pupil's notebook 65c. To interest hero-worshippers. Pictures, maps, hymns and blanks in story to enable pupils to write original ideas.

Grade VI (Ages 10–13 years)

A. *Heroes of Israel.* T. G. Soares, 1908, pp. 388, $1.00, Teacher's Manual (1910) $1.00. Biblical text of story of each hero, omitting the irrelevant, and printed in modern form. Questions suggesting meaning of story and relations to problems of pupils' lives.

or

B. *Old Testament Story.* C. H. Corbett, 1912, pp. 210, $1.00, pupil's notebook 65c. Continuous story: Exodus to death of Solomon; biblical, archaeological and illustrative material; pupil's loose-leaf notebook with pictures, maps, models of buildings, etc.

Grade VII (Ages 13–14 years)

The Story of Paul of Tarsus. Louise W. Atkinson, 1910, pp. 194, $1.00, pupil's notebook 65c, pupil's home work 25c. The product of four years of experience in the Second Congregational Sunday School of Rockford, Illinois. Paul is discussed as a boy at play, a youth at school, and a man of thrilling adventures. Loose-leaf notebook enables pupil to write his own life of Paul.

Grade VIII (Ages 13–15 years)

A. *Studies in the Gospel of Mark.* E. D. Burton, 1904, pp. xxx & 248, $1.10. A life rather than a book study, annotated on the plan of similar masterpieces used in the first year of high school. Notes, maps, pictures, dictionary.

or

B. *Studies in the First Book of Samuel.* H. L. Willett, 1908, pp. xxxviii & 305, $1.25. Same principle and plan as VIII A. Also suitable for first-year high school ages.

SECONDARY DIVISION

(High Schools and Academies)

1. *The Hebrew Prophets.* Georgia L. Chamberlin, 1910, pp. xviii & 237, $1.25. Related to modern moral, civic and social problems.
2. *The Life of Christ.* I. B. Burgess, 1908, pps. 307, $1.25, pupil's notebook 25c. For boys and girls beginning to think on religious matters. Notes, collateral reading, topics for discussion, etc., based on Mathews and Burton *Life of Christ.*
3. *Christianity in the Apostolic Age.* G. H. Gilbert, 1906, pp. 239, $1.25. Emphasis on living men rather than dead doctrines; maps, illustrated notes, topics for discussion.
4. *Problems of Boyhood.* F. W. Johnson, 1914, pp. xxv, 130, $1.00, a course in ethics, topics for discussion, for high school boys. Reviewed in Educational Administration and Supervision, April, 1915, pps. 278–9.
5. *Lives Worth Living.* Emily C. Peabody, 1915, $1.00, pp. iii & 187. A solution of the problems of girlhood through a series of biographies of biblical and modern women; topics for study and bibliography; excellent for older classes of girls. Reviewed in November Educational Administration and Supervision, pp. 629–632.
6. *Social Duties from the Christian Point of View.* C. R. Henderson, 1909, pp. xii & 332, $1.25. Written by a well-recognized authority to prepare young people for the obligations of family, business, society, public health, church, and national and international citizenship; helpful topics for discussion and bibliography to each chapter. Excellent for young people and college, but too advanced for high school students, for whom the book was written.

COLLEGE, UNIVERSITY AND ADVANCED DIVISION

1. *Origin and Religious Teachings of the Old Testament Books.* Georgia L. Chamberlin, 1908, 50c, pp. 70. The spirit and purpose of each book of the Old Testament is shown by the study of typical selections; basis for teacher training course.
2. *Origin and Teaching of the New Testament Books.* E. D. Burton and Fred Merrifield, 1914, 50c, pp. 102. Completing with the preceding a study of the Bible for teacher training or adult classes.

3. *Life of Christ.* E. D. Burton and Shailer Mathews, 1900, (10th impression 1914), $1.25, pp. 300. Scholarly without being heavy, critical without exploiting hazardous theories. Suggestions and bibliography.

4. *Short Introduction to the Gospels.* E. D. Burton, 1904 (1913), $1.00, pp. vii & 144. Nationality, religious position, intended readers, and purposes of the four authors; analytical plan of books.

5. *Handbook of the Life of Paul.* E. D. Burton, 1899, 50c, pp. 100. A guide to the life and letters of Paul; treatment historical.

6. *Great Men of the Christian Church.* Williston Walker, 1908, $1.50, pp. 378. The progress of religious thought as seen in thirteen biographies—Justin Martyr to Horace Bushnell—representing crises in church history; one of the best books in the series.

7. *Christianity and Its Bible.* F. Waring, 1907, $1.00, pp. xxi & 369. Sketch of Old Testament religion, Christian church and present status of Christianity.

8. *Christian Faith for Men of Today.* E. A. Cook, $1.25, pp. 260. A popular presentation of essentials of Christian belief in untheological language, with the recognition of modern thought.

9. *Scripture and Song and Worship.* F. W. Shepardson and L. B. Jones, 1909, 40c (30c in pasteboard), pp. vii & 144. Eighteen complete services for both general and special days, Scripture passages and responses and prayers in unison. Aims to supply a great need in the modern Sunday School.

10. *Sunday School Building and Its Equipment.* H. F. Evans, 1914, 75c, pp. 116. How to build, rebuild or use to advantage inadequate buildings. Covers briefly a neglected field.

11. *The City Institute for Religious Teachers.* Walter S. Anthearn, 1915, 75c, pp. xiv & 151. Bibliography; discussion of the method of conducting union teacher training work in a community.

12. *Religious Education in the Family.* H. F. Cope, 1915, $1.25, pp. xii & 296. Suggestions for new and definite practices in the direction of a child's religious ideals. For teachers, parents and adult classes. Bibliography at end of chapters. A practical and usable book in a new field.

The above books are selections from the following four series of publications on Religious Education by the University of Chicago Press:

1. Constructive Studies, containing thirty volumes covering kindergarten to adult years. Most of the above books belong to this series.

2. Handbooks of Ethics and Religion, a series recently instituted, designed to meet the needs especially of college students:

Freshman (religious and ethical life of Jesus and life of Paul);
Sophomore (Hebrew religion and early Christianity);
Junior (Church history and world religions, Christianity and modern life); and
Senior (Christian religion, ethics, psychology of religion and religious education).

Graded systematically.

Of this series only three volumes have been printed, i. e., Cook, ***Christian Faith for Men of Today;*** Mitchell, ***Ethics of the Old Testament;*** and Burton & Mathews, ***Life of Christ.***

3. Outline Bible Study Courses of the American Institute of Sacred Literature, being a series of discussions for the study of Biblical literature by the inductive method.
4. Teacher training and general reference books on Sunday School organization, equipment, the psychology of religion, etc.

Our progressive educators of today are wondering what can be done to include in our educational system moral and religious instruction or at least a study of the Bible as literature and a standard moral code. Our Sunday Schools are beginning to realize their deficiency in educational standards. Our academies and universities are asking for suitable texts for classes in religious education. In this widespread demand for scholarly textbooks the University of Chicago Press has produced the first complete and at all adequate series.

The late President W. R. Harper of the University of Chicago, seeing over fifteen years ago the chaotic and disorganized methods of Sunday School work and that a Sunday School should have a curriculum of study as carefully and intelligently graded as that of any school or college, covering a period of no less than three or four years, planned a set of texts comparable in scholarship and plans of study to those in use in day schools, from the kindergarten to the university. In outlining this set of texts he brought to bear not only his breadth of view, reputation as an Old Testament scholar, and masterful executive ability, but also his practical experience as Superintendent of the Hyde Park Baptist Sunday School, one of the first thoroughly graded Sunday Schools in America. He invited into co-editorship Prof. E. D. Burton, head of the Department of New Testament Literature in the University of Chicago. The first course appeared in 1900 and by 1904 the series was well under way. To date about four dozen textbooks and pupils' notebooks have appeared, twenty-five being reference books and teachers' manuals. At the time of the initiation of the series the thought of the editors embraced only Biblical textbooks, in order that students might construct for themselves the life, the experiences and the teachings of the Bible. But the purpose has since been broadened to include constructive volumes on religious and moral education and organization.

The books purport to use the historical method of Bible study, avoiding controversial questions and aiming at constructive work. There are abundant pedagogical helps, both for the teacher and the pupil, and extensive bibliographies in most of the volumes. The volumes presuppose either a year's or a half year's work. There is a general publication for free distribution, entitled *Religious Education*, (pps. 166, 1913), which explains how to introduce the course and offers many useful suggestions in regard to the graded Sunday School.

Practically the entire series represents transitional literature in religious education, being popularized scholarship in order that the texts may be practical and helpful. Consequently, there is scarcely a text in the series that can be regarded as final on its subject. Some of the books are very superficial and in an effort to outline and organize the material for class work some are either over-organized or so slightly organized that they are practically unusable. Many of the books are worse than useless if the teachers and pupils do not adequately prepare their lessons, and in some cases the textbook requires a teacher who has an efficient knowledge of that particular field. In some cases, also, the teacher is compelled to supply too much material. Religious inspiration and daily helpfulness, essential especially in religious instruction, are often subordinated to the desire to impart book knowledge. While the texts may be used for several classes in successive years and may be economical in the end, they are too expensive individually and require too much of an original outlay of money. A fifty per cent. reduction in price on most of the texts should assure a wide adoption. (There is a twenty per cent. reduction on certain books in quantities of more than six.)

Some of the books bear the marks of hasty preparation. Some are cumbrously constructed and not written in an interesting style. Some are very much out of date. In all instances, the year of publication is omitted. The most recent books are of a decidedly superior grade.

However, this series of texts comes as a welcome aid toward a solution of our problems of the shiftless and worse than no teaching in most of our present religious education. They afford a basis for interdenominational instruction in religious and moral education in our public schools since controverted questions are avoided. Therefore, they serve as a transition to the period when the common elements of religious beliefs, which are the essential things in all moral and religious instruction, can be taught in our public schools and universities without any danger of sectarianism, and they augur the day when there will be a complete scheme of moral and religious instruction as an adjunct, if not as an essential part, of our entire educational system.

VERGIL V. PHELPS.

Urbana, Illinois.

HENRY JOHNSON. *Teaching of History*. New York: The Macmillan Company, 1915. Pp. xxix, 479. $1.40.

In this volume of generous size Professor Johnson has touched upon virtually every phase of history teaching, from the theory of what history is to class room practices and suggestions of methods. The keynote of the work is, however, scientific history, that is, a plea that history teaching even in elementary and secondary schools shall be dominated by the idea of history organized and presented as a fact study solely, without conscious effort toward literary embellishment, individual interpretation, or notable systematic correlation with other subjects in the curriculum. History, Professor Johnson urges, is in and of itself more interesting than fiction, and, properly presented, can be appreciated and enjoyed by all types of mind in all types of schools. Nevertheless, he hastens to declare, such results have too often in the past not been attained, owing chiefly (he implies) to the inefficiency of the teachers who have taught the subject. "Teachers of history," he charges, "have labored diligently to improve the world in general through history in general (but) they have not labored diligently to improve their own calling through the special history of that calling." It is to present a special history of history teaching that Professor Johnson has set for himself the present task. He believes that "history of almost any kind can be taught at almost any stage of instruction on the simple condition that it is taught in a sensible way."

The work is divided into fifteen chapters, not including fifty pages of appendices. Among the most suggestive of these chapters are the ones on *The Question of Aims and Values* (Ch. III), *Making the Past Real* (Ch. VIII), and *The Use of Text Books* (Ch. XII). The chapters entitled *School History and the Historical Method* (Ch. XIV), *The Use of Models and Pictures* (Ch. IX), *The Use of Maps* (Ch. X) and *The Correlation of History with Other Subjects in the Curriculum* (Ch. XV) will also yield helpful suggestions to teachers of elementary and secondary schools, but will, the reviewer fancies, cause many of them to query whether Professor Johnson has ever been an elementary or high school teacher, whether he really appreciates the difficulties and burdens under which most of them labor today, and whether he has estimated fairly the capacities, interests and diversified ambitions of the pupils in the typical American school—particularly the school situated in the smaller cities and towns.

Despite the seemingly unattainable ideal the book sets for teachers of history of ordinary ability and in ordinary situations, it nevertheless is a most valuable contribution to the lists of treatises on history and history teaching. It can most profitably be read and studied by every teacher of history.

An excellent, well-classified bibliography covering thirty-five pages is a feature of the book. There are also twelve pages given over to "Questions on the Text," which, if conscientiously studied and fully answered by all readers of the book, would nearly guarantee a fair mastery of the subject matter and technique of history as a school subject.

C. O. Davis.

University of Michigan.

Principles and Methods of Moral Training with Special Reference to School Discipline. By J. Welton and F. G. Blandford. Baltimore: Warwick & York, Inc.

The purpose of this book is to state the principles and methods of moral training with special reference to school discipline. The first half of the text is largely devoted to a statement of principles and methods; the last half, to a treatment of general problems of discipline. The topics treated are the following: Nature of Moral Training, Habit, Duty, Virtue, Conscience, The School Community, Exercise of Discipline, Disciplinary Organization of the School, The Relation between the School and the Home, and Stimulus and Restraint.

Each of these topics is examined with special reference to its origin in the individual and the community. Then its special bearing on discipline is shown. Discipline, itself, is looked upon as a matter which concerns the welfare of the child rather than that of the school. In this connection, the authors make plain that they do not offer "cut-and-dried rules for maintaining order" or a "vade mecum for teachers who are poor disciplinarians." The book does, however, point out at times, specific ways of dealing with specific problems of class management; but, as a rule, only basic principles are indicated. This is as it should be, for no teacher, no matter how experienced, can ever *tell* another just *how* "to turn the trick" in the matter of class control.

The chapter on "Habit" is particularly good. It combines with the usual psychological-historical method of treatment a practical, common-sense point of view, which, while it is entirely original, reminds the reader by its vivacity of the classical chapter of William James on this subject. The authors' careful distinction between "habits" and "habitudes" is informing and should be of especial value to young teachers who have not learned by practical experience that habits are frequently simply the expression of deeper tendencies.

Some of the other chapters may seem a little heavy, but the slight tendency in this direction is more than offset by the correctness of style and a peculiarly happy manner of expression. In fact, the authors have been successful to a marked degree in putting into clear, concise language many of the half-formed ideas about school management, which most teachers have vaguely floating in their minds but cannot fix by definite words. The book is filled with sentences which might well become educational apothegms. It requires and repays a second reading.

Roy Davis.

Boston Mechanic Arts High School.

William Chandler Bagley. *School Discipline.* New York: The Macmillan Company, 1914. Pp. XIV, 259. $1.25.

Fundamental in its grasp, coherent in its treatment, fascinating in its style, are the impressions which are dominant with the reader upon the completion of a study of Dr. Bagley's new volume on "School Discipline." As is usual with him, Dr. Bagley establishes in the opening chapter the foundation for the structure which he plans to erect. This he does in his statement of the "meaning of discipline." He shows that the discipline of the school should be so administered that the children will feel the school requirements are not dictated by the "whims of those in authority but by the necessities of the work that is undertaken and by the welfare and needs of the social group." He shows that the object of all discipline is to establish a "fashion of good order" in the school.

Upon the basis of this foundation he discusses the unruly school, with the object of seeing why it is so and how it may be modified into a school dominated by a "fashion of good order." From a wealth of concrete material, he shows how the unruly school may result from the employment of harsh and unsympathetic measures, from indulgence, from an illy adapted personality, from the teacher's failure to organize the routine of the school, from an objectionable teaching voice. Chapter III is largely taken up with a discussion of the teacher's personality, the elements entering into the same, and with a discussion of the possibility of improving personality. The statistical studies which have been made in reference to the failure of teachers are skillfully woven into the discussion. The idea that the artistic teacher is fully "born" and not at all "made" receives a serious blow in this chapter.

Having shown the fundamental causes of the unruly school, Dr. Bagley proceeds to indicate the fundamental attack in transforming the unruly school into a well disciplined school. He deals, in the first place, with the indirect and non-coercive methods which may be employed. Here he discusses the importance of an objective, impersonal attitude on the part of the teacher toward the children and their work, emphasizing that the teacher is not a warrior waging a contest with an almost equal enemy, but is rather a physician who, while sympathetic, does not interpret the difficulties in his task to be due to efforts on the part of the children to interfere with his personal success. He next shows the value in transforming the unruly school from raising the qualitative standards of the children, in this connection showing the use which may be made of such objective standards and scales as have been provided us by Ayres in writing and spelling, Courtis in arithmetic, Thorndike and others in composition, and so on. The use which may be made of individual assignments, of arousing the group to a feeling of proper responsibility, and of a proper regimen of work in transforming the unruly school, is duly and fundamentally treated.

Following this treatment of the indirect and non-coercive methods of transforming the school, which constitutes the center and heart of the book and which states Dr. Bagley's ideal in reference to the methods of disciplining a school, he recognizes frankly that ideal schemes do not always "work." This leads him to a discussion of the necessity, in practice, of sometimes employing direct, coercive measures in disciplining the school. He shows such measures are apt to be needed in the spoiled school, in the rebellious school, and in the overcoming of certain types of malicious conduct. In this connection there is an excellent chapter on the place of rewards and penalties in the discipline of the school and another chapter dealing with corporal punishment—the reasons for its decline, together with a statement of the conditions under which it may properly be invoked yet to-day.

Chapter XIII will be found particularly helpful because of its concreteness. The author suggests a tentative classification of troublesome types of disciplinary cases. His closing chapter on discipline and the doctrine of interest is especially interesting in view of Dr. Bagley's well known position upon this question as brought out in his discussion, particularly with Professor Haworth and Professor Dewey. Even the extreme advocates of the efficacy of interest will have little opportunity to disagree with the treatment in this chapter. It is one of the most fundamentally helpful chapters in the book.

The volume throughout shows that while the author is presenting a masterful theoretical discussion of the problem of disciplne, he has tested and largely proved his theories in practice. His practical experience has enabled him to point his theoretical position by concrete illustrations which render the book both easy and attractive to read and simple to apply. It is calculated to render large service to the teacher who goes alone to a source of authority seeking help upon a difficult disciplinary problem. It will likewise be found very attractive for use on the part of superintendents of schools and principals of schools who are desirous of raising the problem of discipline from the plane of routine and drudgery to the place where the teacher's feet are fundamentally planted upon those principles which will enable her to proceed rationally with her disciplinary problems.

Topeka, Kansas, Public Schools. H. B. WILSON.

EDWARD C. ELLIOTT. *City School Supervision.* School Efficiency Series. New York: World Book Company, 1914. Pp. XIV—258.

Board of Superintendents: The Hanus-Elliott Report to the Committee on School Inquiry, Document No. 5, New York; Board of Education, 1913. Pp. 30.

Professor Elliott describes the formation of the boards and superintendencies of the New York public school system in 1897 and since, and outlines their qualifications and duties and the actual work which they perform. By an examination of numerous files and reports of the officers of the school system and by personal observation in the schools, Mr. Elliott has come to some very definite conclusions as to changes which will increase the efficiency of the system.

He strongly urges the abolition of the Board of Superintendents and the office of Associate Superintendent. The work of this board is in the main clerical, says Dr. Elliott, while the members are paid at the rate of expert administrators. The real administrative, supervisory, and inspectorial duties of the board he would have transferred to the City Superintendent and the Supervisory Board; this Supervisory Board to be made up of the City Superintendent, the district Superintendents and representatives of the special supervisory staff, of the principals, and of the teaching force. Such a council would, in Mr. Elliott's opinion, supply much of the co-operation which is lacking under the present regime.

The third principal recommendation made is the creation of a Bureau of Investigation and Appraisal for the gathering and interpretation of statistical data with reference to ascertaining the present condition of the schools and the need of, and proper methods for, further development.

The work of the Board of Examiners is commended, but it is suggested that the growing duties of this board could be better performed by a committee of nine, including the City Superintendent, instead of the present four, two of the members being then allowed every fourth year for special or supervisory work in the schools. Professor Elliott condemns the perfunctoriness of the teacher rating. He produces here, for comparison, the various systems of teacher rating found in a number of other cities. He finds that a surprisingly large majority of the teaching force, as well as the supervisory staff, have been trained exclusively in the city. This he considers a very narrowing process.

The District Superintendents, says Mr. Elliott, cannot adequately supervise the number of schools allotted to them. Much of their supervisory work should be transferred to the principals, after first raising the qualifications for these principals to a standard which will insure supervisory ability on their part.

By all means, says Dr. Elliott, should the administrative, the supervisory, and the inspectorial duties of the school officers be kept separate and distinct. The failure to do this, he thinks, has caused much of the waste and inefficiency which he finds in the New York school system.

In connection with the report of Professor Elliott, referred to above, the answer to the same by the Board of Superintendents of the City of New York is of especial interest. While the report is taken up in full it is evident, and naturally so, that the recommendation for the abolition of the Board of Superintendents especially, has aroused the ire of this board, and while considering and correcting and minimizing the motes pointed out they have taken occasion to go on a diligent and strenuous search for beams. To quote them, "the report is inconsistent and misleading, and is, moreover, unfair and unjust in its conclusions." Professor Elliott is accused in unmistakable terms of undertaking his investigations with a strong bias, with a preconceived notion of reorganization, and with the purpose simply of finding evidence to support and substantiate his recommendations. The report and answer in several places come perilously near a direct contradiction of fact. For instance, in reply to the severe criticism of Dr. Elliott on the autocratic rule of the Board of Superintendents and the subservience of the district superintendents, based upon "abundant evidence" gathered from "a review of the meetings of the Board of Superintendents for several years past, and the attendance upon several meetings of this Board during the course of the inquiry," the Board asserts that Dr. Elliott was present at but one meeting of the Board of Superintendents and that whatever evidence he could have gathered on this point was taken from very much abbreviated reports. Such comments as these on Dr. Elliott's methods do certainly, if accepted unquestioningly, go a long way toward invalidating the report.

Even granting the faults that Dr. Elliott professes to find in the operation of the New York school system, the Board would contend that the incorporation of his recommendations would be impracticable or would work in exactly the opposite direction to that of the desired results. The Board estimates that the transference of certain of their duties to the City Superintendent would carry that officer's duties and responsibilities, already heavy, beyond the limit of endurance, while it would at the same time remove from the service the intimate understanding which the present Board has of special and local conditions. The Board scouts Dr. Elliott's idea of a Supervisory Council as an unwieldly working body and as tending toward less, rather than more independence in policy-forming and supervisory work.

It is very difficult for one unfamiliar with the working of the New York school system to pass judgment on the present controversy, and it would probably be unwise to attempt it. Still, it is rather clear, from a consideration of the two reports, that Dr. Elliott must have been influenced to a considerable extent by his impression of the spirit of responsibility, sympathy, and co-operation (or lack of these) operative in the various officers of the school system, while it would seem that the Board confines itself more strictly to a consideration of the legal powers, duties, and transactions of these officers and bodies.

At all events, it must be granted to the Board of Superintendents that it has made a rather game fight for its life.

JOSEPH HENRY JOHNSTON.

University of Illinois.

Wages and Regularity of Employment in the Cloak, Suit, and Skirt Industry with Plans for Apprenticeship for Cutters and the Education of Workers in the Industry. Report of the U. S. Department of Labor, Bureau of Labor Statistics, Wages and Hours of Labor Series: No. 9, 1915. Pp. 197.

This report presents the results of a study of the conditions in the Boston and New York City cloak, suit, and skirt industry. The investigation was brought about by the need for reliable data felt in 1913 when an attempt was made to arbitrate wages disputes. It was undertaken at the joint expense of the manufacturers' association and the unions.

The results presented show that, although week wages were relatively high, employment was so irregular because of the seasonal character of the industry that annual wages were low. The workers were found to shift much from one shop to another even during the busy season. Further, it was revealed that only a few of the workers had learned their trade through an apprenticeship in the industry. The most of them had secured employment at the rougher work and had learned the trade by casual observation. Such a procedure, in the opinion of those writing the report, is perfectly adequate to furnish any of the workers needed in the shops producing a low or average grade product and, also, to furnish the workers for all divisions of the industry in the better shops with the exception of the designers and cutters. These ought to receive a more systematic training. Moreover, nearly all of the pressers and four-fifths of the cutters were foreign born and entered the industry soon after emigrating to the United States. These could be educated very profitably for citizenship.

The apprenticeship proposals are for the training of cutters and designers. The other workers are to be educated through a factory school and a part-time school, both of which are to be conducted mainly during the periods of comparative unemployment. Both technical and cultural courses are to be offered. The expenses of these schools are to be met jointly by the manufacturers' association and the unions.

The extreme complexity of the problem of furnishing systematic training for industrial workers is revealed by this report. Those who are interested in such problems will find much excellent material within its pages.

C. E. Holley.

Ohio Wesleyan University.

L. R. Alderman. *School Credit for Home Work.* New York: Houghton Mifflin Company, 1915. Pp. 181.

Those who are already somewhat familiar with the idea of giving credit in the school in some form for work done in the home or on the farm will welcome this little book. Both idea and book are the products of the Far West and typify that freedom from traditional procedure so characteristic of that section. The method is a further exemplification of the idea now becoming prevalent in many quarters that the school exists for the benefit of the child, for his growth and development. The work done under parents' supervision adds to the moral worth of the child, therefore the school should not hesitate to recognize its value,—such is the import of the book.

The idea of school credit for home work has had a quick growth, and already in a great number of schools different methods of administration have been worked out. From practically all these come reports of good results, both for the child and for the home. Parents report an increasing cheerfulness on the part of the child at work, an added interest in the home or farm, a lightening of their own daily load. Teachers report a new bond between the home and school, a new spirit of co-operation in school affairs, better results scholastically.

In addition to the above summary, the book contains a brief history of the movement for school credits for home work, details as to administration of the scheme, rather complete lists of forms of work for which credits are given, together with the amount of credit given for each, and various kinds of printed forms (report cards) which teachers and administrators have found of value. The book will be found valuable from this latter point of view alone.

Jas. H. Hanger.

Decatur, Ill.

FREDERICK J. REILLY. *Rational Athletics for Boys.* New York: D. C. Heath & Company, 1915. Pp. 125.

In this little book the author, principal of public school 33, the Bronx, New York City, describes in a very interesting way a scheme which he has developed for the socializing of public school athletics and gymnasium class work. Mr. Reilly criticizes severely the formalism of the usual class work in physical training, which is so dull and mechanical that the children do not like it and which is not of a character to be of service in adult life. He criticizes even more severely our system of inter-school athletics, which develops the few to the great neglect of the many and fosters a dangerous specialization and a commercialism in sports. To displace these evils he has worked out his system of "Rational Athletics."

The class work in physical training is motivated through a series of ingenious devices for organizing the classes into competitive groups. A series of athletic events, with a system of scoring suitable to such a scheme, has been worked out. The result is that the social value and zest of team work has been injected into the ordinary class work. The children are intensely interested in becoming athletes—not specialists but all round normally developed athletes.

Under this system inter-class contests are held in which *every member of the classes* competes and inter-school contests have been held in which *eighty percent of the spectators have been contestants*—so different from the usual athletic contest.

The details of the methods of accomplishing these results are accurately described.

Such an experiment in socializing athletics deserves the widest publicity.

Decatur, Illinois. JESSE H. NEWLON.

J. C. CUNNINGHAM and H. LANCELOT. *Soil and Plant Life.* New York: The Macmillan Co. Pages 348. Illus.

This new text on elementary agriculture by Cunningham and Lancelot is a good organization of the two large phases of agriculture which should be presented in the earlier years of an agricultural course. Like many other texts written by our scientists in universities and colleges, this book seems to emphasize the pure science side more than the vocational features of the topics considered. In this book there are eight or ten chapters devoted to a discussion of plants, which might well be elementary botany pure and simple. Such chapters as those on the root, stem, leaf, and flowers of plants, while they treat of essentials in agricultural education, belong primarily to courses of botany. The work in economic farm crops is well treated and if more of the text were given to this work than to elements of botany it would be worth more as an agricultural text.

The practical exercises are distributed through the reading matter of the text. To many teachers this would be a criticism. Agricultural teachers and students prefer to have the discussion continuous without being broken up by practical exercises. These practical exercises and laboratory experiments should be grouped together at the end of chapters or after the completion of the discussion of a particular topic. The authors suggest a season's sequence for the arrangement of the subject matter, but they do not follow it in their own organization.

Greater emphasis is placed on soil physics than upon soil fertility. This perhaps would be a criticism offered by practical farmers, since the maintenance of permanent soil fertility is as much a need in agriculture as an understanding of the principles of soil physics.

A. W. NOLAN.

College of Agriculture, University of Illinois.

BIRD THOMAS BALDWIN. *Physical Growth and School Progress:* A Study in Experimental Education. Washington: United States Bureau of Education: Bulletin No. 581.

In this Bulletin Prof. Baldwin, recognizing the fact that there must be a close relation between the physical and mental development of children and believing that this relation should be respected by all teachers, has published his study of the physical growth and school standing of 861 boys and 1063 girls through their elementary and high school years. These children were examined at least twice during each year and records taken of their height, weight, lung capacity, and school standing.

The writer has divided his discussion into four general parts: (1) the problem stated; (2) the investigation including numerous charts and tables with proofs and comments; (3) the statistical material, containing valuable data as a basis for further investigations; and (4) an historical summary of investigations on physical growth. A bibliography of 336 titles is also helpful.

Prof. Baldwin finds from the investigation that the tall heavy boys and girls with good lung capacity are older physiologically and further developed mentally than the smaller children of light weight, and believes that the larger children should be encouraged to advance rapidly, while the smaller ones would require more supplementary work. For these reasons our school systems should be graded rather on the physiological than, as they now are, on the chronological age.

This monograph should be of interest to all teachers and is especially valuable also as it is the first attempt to follow consecutively the same groups of children through their school years in both physical and school standing.

N. B. JOHNSTON.

THE Division of Industrial Education of the U. S. Bureau of Education, Washington, D. C., has prepared a preliminary "List of Schools in which Trades are Taught," with the names of the directors; also a list of names and addresses of directors in charge of "Courses for the Preparation of Special Teachers (Men) or Directors or Supervisors of the Manual Arts or for Vocational Schools"; also a list of "References Dealing with Courses of Study in the Manual Arts, Household Arts, and Vocational Education." Copies of these lists will be sent to any address upon request.

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EDITORIALS

Breaking the "Single-Curriculum" Crust

" * * * * But the typical high school of this country has only two to four teachers. It can not give a separate course (college preparatory "curriculum") for those going to college and at the same time take up the courses that are closely related to the needs of our students and the country at large. Out in the cactus and sage brush regions of the west, in the little God-forsaken eastern village which so much needs intelligent study and citizenship alive to its needs, and scattered over the broad agricultural valleys, as well as in the high schools of our cities, we find pupils droning over Caesar's wars in ancient Gaul, covering blackboards with relatively meaningless algebraic or geometric symbols, and vainly endeavoring to gain a respectable knowledge of one or two non-English languages.

"Nearly a million preventable deaths occur each year in our country and yet our secondary pupils study not hygiene, and little or no time is given to physical development. They may, after several years' study, be able to translate the legend on the medal recently presented to Colonel Gorgas, Salus Populi Suprema Lex, but the preventable death, illness and physical defects rates remain uninfluenced by such study. No country ever had a greater need of energetic and enlightened citizenship, and yet but a small proportion of our high-school students get even the usual dessicated half-year course in 'dry-bone civics.' Industrial and domestic intelligence and skill the typical high school leaves undeveloped, even though self-preservation is the first law of life and no real 'culture' can omit such fundamental development as that connected with one's life calling."—Louis W. Rapeer, *School and Society, Jan. 8, 1916, page 47.*

What Can the Small High School Do?

Such an inquiry is seriously addressed to us frequently of late. What vocational education indeed can it offer? One of these inquiries we recently turned over to a friend to answer. His letter to this particular inquiring school board reads as follows:

GENTLEMEN:

Professor Johnston has handed your letter of May 26 to me for reply. The term, "vocational education," about which you desire information, is used with many meanings. Some people consider everything which has ever been studied as vocational education, for there is nothing taught which has not fitted some one for profitable employment at some time or other. Other people think of that education only which fits for the trades such as carpentry, bricklaying, and blacksmithing. There are still others who take a middle position and say that any education which provides training or skill in, or information about, a given vocation is vocational education. I prefer the middle position.

You, perhaps, have been wondering what B can do along this line. I must confess that my knowledge is second-hand and my suggestions may be impracticable. From what I can learn, however, it seems that your school is handicapped by the lack of financial resources. Until this situation is remedied, either by increased tax levies or an enlarged taxing area such as may be secured by consolidation or a township high school, the community cannot expect its school to do more than it is now doing. Vocational education is more expensive than liberal education because equipment and specially trained teachers are needed.

What do the young people of B do when they finish their education? The answer to this question will tell you what kinds of vocational education ought to be given in your community. If it is like communities of the same size with which I am acquainted, some of the boys and girls who finish the high school go to college. These are provided for by the regular work offered in the high school if it is up to standard. Then there are the girls who become homemakers. They ought to have studies which would fit them for this vocation such as courses in foods, clothing, care of the home, household management, and home planning. Another group which might be provided for are the boys who will farm. They ought to have courses in agriculture. If B were larger it might be desirable to differentiate for one more group, those who enter business and need bookkeeping, stenography and typewriting.

Summing up, my first suggestion is that B provide enough school funds by raising the tax levy or by voting for a township high school or a consolidated school. When this has been done you are ready to maintain an accredited high school for those who go to college. Then you can provide domestic education and agricultural education for those boys and girls who want them. This, it seems to me, ought to be the extent of your ambitions until there has been a decided increase in the population of your community.

Yours truly,

WHAT ARE INDIANA'S CONSOLIDATED SCHOOLS DOING?

In another column of this issue we note a thorough investigation of the instructional offerings of these newest types of schools. Obviously the very *raison d'etre* for the larger school unit is at bottom a richer instructional and training opportunity, curriculums well and definitely planned for the larger and more varied constituency thus incorporated to build, equip and support this more commodious building and more adequate educational plant. We note Mr. Rogers' wide observations and his conclusions. He sums up his curriculum estimate as follows: "When we come to the enrichment of the course of study we find that consolidation has not brought about the general introduction of the newer subjects, which are peculiarly adapted to rural life. Less than fifty per cent. of the consolidated schools have made any special provision for these subjects, while nearly all have followed the lead of the schools in the larger centers by providing special teachers for music and drawing. * * * Little effective constructive supervision is found outside the larger cities." The plain fact is that it is easy to plan on paper a fully adjusted high school curriculum but it is not easy to put one in operation. The impressive growth of these consolidated schools, as noted particularly by Commissioner Sisson of Idaho, by Briggs in the latest Annual Report of the U. S. Commissioner of Education, and by many others, does not as yet seem to have gone much farther than the externals. The real work ahead is curriculum differentiation and this implies professionally trained leaders who can do genuine curriculum thinking.

MANUAL TRAINING AND VOCATIONAL EDUCATION

Very recently there assembled in Chicago representatives from fourteen states, convened as invited delegates to the conference on Industrial Education and the Manual Arts. This association is now under the sponsorship of the United States Bureau of Education. These men were chiefly heads of college, university or normal school departments which are training teachers of industrial subjects. In general these experts approved that feature of the Gary plan which allows the elementary pupils to observe and to participate as assistants in the productive shop work, but they were as firmly convinced apparently that the Gary plan for vocational and manual work did not, for the intermediate and high school grades, provide adequate supervision nor afford sufficiently thorough and systematic instruction.

It would appear also that the sense of the Conference was that first rate manual arts courses, typical of those given in any well-appointed high school at present, had proved by their products their vocational value. They are reported as concluding that "*there is no essential difference between teaching manual arts for vocational ends and for cultural ends, provided the students are of the same age and general intelligence.*"

This conclusion, if it really does express the professional attitude of the leaders in manual training work in our high schools, means simply that their "curriculum thinking" is astonishingly stereotyped. Not long ago we visited a, in many respects, well-appointed consolidated high school in a prosperous loyal farming community. So far as expensive equipment was concerned all departments fared well. The manual training work for these husky farmer boys was, just as these authorities above are said to approve, "carefully supervised," the instruction was "thorough and systematic," and there was no "essential difference between teaching it for vocational ends and for cultural ends." It was taught by a "nice lady," who, naturally, followed respectable tradition and professional opinion in these matters. We know of others, however, who have found that manual training in an agricultural curriculum means quite a different thing from the courses of the same name as given in pre-vocational and in trade courses, to say nothing of how it differs from training by that name in the "academic" curriculum.

A Spiritual Attack upon the Rural School Problem

(The National Rural Teachers' Reading Circle)

After all our adequate taxation principles are put into practice, after our ideal educational units of organization, administration, and supervision are adopted, and after our good country roads are constructed, and our school buildings made sanitary and beautiful, we have still to reckon with the "most important and most indispensable agent in the accomplishment of this task" of effecting "wholesome and remunerative living" for those whose homes are in the open country the rural villages, and the small towns. This most vital factor is the rural school teacher. Just now the greatest first need is for a *few leaders,* men and women too full of their work to be conscious of routine as such, who have "read broadly and thought deeply on the problems of life and citizenship, upon the scientific principles involved in farming, and upon the principles of education and their applications to the condition and needs of American rural schools."

The United States Commissioner of Education with the assistance of a Committee of the Association of State Superintendents has organized the "First Rural Teachers' Reading Circle." The two-year course of reading is intended (as a sort of reading-circle 'graduate course') only for those possible rural school leaders, the few, who are mature, who are in earnest, and who by continuous private study and unusual effort are willing to "pay the price of recognized leadership."

Seventeen books, chosen from a list of thirty selected by the aid of "several hundred educators," constitute the "contents" of the course. The reading is distributed as follows: five books from a "general culture list," three "educational classics," three on "general principles and educational methods," three on "rural education" and three on "rural life problems."

Like Eliot's "five foot shelf," and the "ten greatest books" selections, everyone is tempted to note omissions, to cavil about some inclusions, and especially to speculate psychologically about the possible "mixtures of impressions," as Hume would say, sure to result from some combinations of choices. Somewhere, however, between the covers of any of these seventeen-volume combinations one should strike a vein of gold. Best wishes to the members of this "graduate course" and may many win the "National Rural Teachers' Reading Circle Certificate"!

MR. HALL-QUEST ON SUPERVISED STUDY

Readers of this journal will recall the comprehensive and excellent discussions of Supervised Study which appeared in the issue of April 1915, particularly the article by Prof. Hall-Quest of the University of Virginia. Since then Professors Hall-Quest and Heck have done notable work both in original investigations of this problem and in successful practical adaptations of these principles in various school systems of the state. Professor Heck's notable investigation appeared recently in the School Review.

Mr. Hall-Quest has explained in a recent issue of The Virginia Journal of Education the definite administrative and pedagogical steps he has found by experience advisable to take in inaugurating a special system of supervised study in a particular school which has committed itself definitely to the plan.

"I generally suggest the following procedure and it has proved helpful:"

1. Introduce it gradually, one subject at a time. This enables the principal to observe its benefits and to become familiar with necessary adjustments.

2. Use the divided period. Any other method is confusing at first. It is important that each teacher supervise the studying of her pupils, and this can best be done during the recitation period.

3. If at all feasible the periods should be lengthened to fifty minutes in each subject (for high school), and a flexible amount of time in each period be spent on supervising the study of the assignment just given.

4. Teachers should devote as much time to the assignment as they do to the recitation proper. Supervised study is really an elaborated assignment during which the pupils are given opportunity to try out the teacher's explanations in her presence.

5. Home work should be reduced, but at first retained. Eventually for the grades and first two years of high school it should be abandoned entirely.

6. In addition to the studying done in the divided period pupils should be required to study during vacant periods. This provides ample time for the preparation of any assignments that are at all reasonable.

7. Time and effort will be saved if the teacher breaks up her classes into three groups according to ability. Her brightest pupils will need but little attention. Her other two groups—the average and the inferior—will demand most of her time.

8. Teachers should aim to ascertain from each pupil what difficulties interefere with studying, and then, knowing these, assignments and explanations should take these difficulties into account.

9. After the work in one subject has become fairly well adjusted the method should extend to all of them.

10. Each subject requires its own type in study supervision. For this reason teachers should know what are the almost inevitable difficulties in each subject, where they are usually to be found, and then the teacher should anticipate them so as to lessen their seriousness.

While we in the main endorse heartily the general advice here offered, we have a decided inclination to qualify still further items 4, 5 and 6. Doubtless the author himself had in mind the same sort of qualifications, but was forced by space limitations and desire for emphasis to speak with finality about aspects of his problem still open to question,—at any rate still in the stage of experimentation so far as school administration is concerned.

The Scientific Administration of Secondary Schools

At an extended executive session of the National Commission on the Reorganization of Secondary Education held in Chicago November 22–27, 1915, a notable advance in the substantial work of the various subcommittees was made. There was abundant evidence that these extensive constructive reports on the special problems directly connected with the distinctive subject matters of the different high school subjects will be, when published from time to time by the United States Bureau of Education, of wide and determining influence upon the aims, the methods of realizing these controlling aims, the selection and organization of the content of courses and even on topics within courses, the technique of measuring achievements of teaching, and upon standards of secondary teachers of all subjects.

The Central Reviewing Committee of the Commission, during this week of careful analysis and constructive criticism of the already many-times revised drafts of all its sub-committees' reports, has determined upon a general policy for the Commission which has been adopted and which looks toward securing and safe-guarding a certain measure of practical uniformity.

In pursuance of this policy the Central Reviewing Committee (composed of a number of secondary experts chosen at large and of the chairmen of the subcommittees) became more and more of the opinion that, in addition to the above sort of desirable pedagogical uniformity, there appeared now to be a distinct field for expert investigation and more or less authoritative national report on what one might call strictly administrative questions as such, and that the organization of the Commission itself would not be complete nor its work final unless it had a subcommittee to report upon the broad and also the more technical administration problems. Accordingly it was moved and carried, "That a committee on the organization and administration of the secondary schools be appointed."

This committee had its first meeting in Detroit in February, 1916, on the occasion of the Annual Session of the Department of Superintendence. It is composed of men who are willing to work, most of whom at any rate who will within a year's time prepare for the committee's approval a definite section of the full report upon some particular administrative problem of secondary school administration which full report will later be published.

BOOK NOTES

Leonard P. Ayres, Director. Cleveland Education Survey. New York (1915–16). Division of Education of The Russell Sage Foundation.

Five volumes of the Cleveland Educational Survey have appeared. These are entitled, respectively: Health Work and the Public Schools, by Leonard P. Ayres and May Ayres; Child Accounting in the Public Schools, by Leonard P. Ayres; Financing the Public School, by Earle Clark; What the Schools Teach and Might Teach, by Franklin Bobbit; and Education through Recreation, by George E. Johnson. These little volumes include from 60 to 100 pages, and are sold for 25 cents each. These, and other volumes of the series of twenty-five volumes as they appear, will be reviewed in later issues.

F. W. Ballou. Basis for Rating the Efficiency of Teachers. Department of Educational Investigation and Measurement, Boston Public Schools. 1915.

Boston has just issued three forms for use in rating teachers. One deals with the teacher's educational preparation before appointment, and her teaching experience. The second is concerned with the teacher's continued professional growth, as evidenced by summer school work, educational literature published or read, educational courses attended, and general activities outside the school. The third considers the teacher's personal equipment and ability as a teacher. The forms are each four pages long. They represent the most elaborate scheme so far worked out for determining the total efficiency of the teacher. The efforts of F. W. Ballou, Director of the Department of Educational Investigation and Measurement, deserve commendation.

Rollo Walter Brown. *How the French Boy Learns to Write.* Cambridge: Harvard University Press, 1915. Pp. ix, 260. $1.25.

One of the most indecisive educational controversies that has been waged in the high class journals of the country has revolved around the question as to whether our courses and our systems of courses in English composition are worth while. Some eminent university teachers of English Literature have vigorously scouted the idea that style, facility in writing, the art of written speech can be taught in the systematic and more or less mechanical modern way by regular exercises in assigned theme-writing. Meanwhile those committed to the method of forcibly feeding such instruction and practical direction have built up actual "systems" in both colleges and high schools. Nation-wide "investigations" even have been carried on which purport to show that the Composition teacher, with her "labatory" work in theme-correcting, is much over-worked and that the future of the system requires special administrative consideration be given her in the way of assigning fewer hours of class-teaching and of officially recognizing the "equivalent" effort of her necessary theme-correction labor. Further than this, acting on the assumption that mechanical writing (and other forms) is a definite school task and practicable, scale makers have attempted to devise "fool-proof" schemes by the use of which any teacher may mechanically read off accurately and impartially the value of any student's written efforts. Still further, there are now under way "scientific" large-scale investigations of the relative effectiveness of various methods of teaching the art of oral use of the vernacular.

It happily occurred to Professor Brown that France had as a nation somehow carried on what might be called a national experiment in the teaching of the mother tongue, and that, in the sense that her scheme intricately related the problem of the art of writing to the entire educational scheme, her methods very likely involved some profound and fundamental educational principle. He therefore spent a year investigating these methods in the secondary schools of France. In his treatment he deals with the mother tongue in the curriculum, the French attitude toward composition, material for themes, criticism of themes, writing and speaking, grammar, reading and literature, amount and quality of literature read, memorized, foreign languages, the French teacher, and lastly the "organized language tradition" and the lack and need of it in America. It need hardly be said that every language teacher, not only English teacher, could profitably study this new and interesting book.

PAUL CARUS. *Nietzsche and Other Exponents of Individualism.* Chicago: The Open Court Publishing Co., 1914. Pp. 150.

This book is interesting, despite the fact that the author is making out of the life and writings of Nietzsche the text for a sermon on absolutism in philosophy and the pretext for an attack on individualism as an ideal principle upon which to base rules of personal, educational or political conduct.

The author bewails the fact that the world is not responsive to a world "*Philosophy of Science*," lamenting as follows: "The mass of mankind is weary of science, and anti-scientific tendencies grow up like mush-rooms, finding spokesmen in philosophers like William James and Henri Bergson who have the ear of large masses, proclaiming the superiority of subjectivism, and the advantages of animal instinct over human reason." Such philosophies are "sentimental attitudes," "poetical effusions," which, if indulged in, block the path of progress of sublimely objective science. Nietzsche carries the doctrines of individualism and subjectivism to their inevitable and logical extreme. Despite many side volleys at all who differ as to the general character of philosophies, especially at such genuine philosophers as James and Bergson, most readers will agree with the author in his condemnation of Nietzsche's extreme statements. "We enjoy the rockets of Nietzsche's genius, we understand his Faust-like disappointment as to the unavailableness of science such as he knew it; we sympathize with the honesty with which he offered his thoughts to the world; we recognize the flashes of truth which occur in his sentences, uttered in the tone of a prophet; but we cannot help condemning his philosophy as unsound in its basis, his errors being the result of an immaturity of comprehension" (p. 131).

The author betrays (p. 79) what to us is an un-American attitude, at least an undemocratic one when he makes his pleading for a philosophy carry over into political application in the following: "We will only point out that society will practically remain the same whether we consider social arrangements as voluntary contracts of as organically developed social institutions as imposed upon mankind by the divine world-order, or even if czars and kings claim to govern "by the grace of God." Whatever religious or natural sanction any government may claim to possess, the method of keeping order will be the same everywhere. Wrongs have been done and in the future may still be committed in the name of right, and injustice may again and again worst justice in the name of law. On the other hand, we notice a progress throughout the world of a slow but steady improvement of conditions. "Civilized countries, whether monarchies or republics, insure personal safety to travelers, murders occur alike in all types of governments too." "The world-conception lying behind our different social theories is the same wherever the same kind of civilization (kultur?) prevails." The author is no democrat in education and politics any more than he is in philosophy. His "scientific philosophy" is "the prerogative of the few." "We do not deny that the masses of the world are not, cannot be and never will be scientific thinkers."

ELLWOOD P. CUBBERLEY AND EDWARD C. ELLIOTT. *State and County School Administration.* (Vol. II Source Book.) New York: The Macmillan Co., 1915. Pp. xxiii, 729.

It is safe to say that no ambitious school administrator will fail to place in his professional library this volume, long in preparation and now accessible, under the joint editorship of Professors Cubberley and Elliott. This editorial partnership seems most fortunate as the administrative interests and specialties of these two authorities are most happily complementary.

The material included in this Source Book does not comprehend all the varied features of educational administration, but in the authors' opinion does "contain typical records reflecting the ideas and practices that have molded and still continue to influence the form of our educational organization, the manner of our educational administration, and, without question, the ultimate results of the school systems of the United States." The formulation of the *principles* which should become the guides in adapting the form and operation of educational institutions to the changes constantly demanded by the progressive evolution of our civilization, soon are to appear in a constructive volume by the editors. The authors assume that American democracy has developed these fundamental principles for the operation and control of school sysems and that our administrative educational experience has not been the "conglomerate mass of hit-and-miss experiments" which without such extended formulation of administrative principles they appear actually to be.

The book is organized into seven "Divisions." Division I deals with federal and state policy, and opens with a chapter by Woodrow Wilson which is followed by other discussions of state functions, national participation in education, federal agencies, and contemporary movements for nationalizing education. Division II deals with state units, local units, district systems as educational units, town systems, county units, the rural school problem and state educational organization. Division III contains authoritative discussions of the extent of the educational system, elementary, secondary, industrial, supplemental, and higher and professional education. The editors apparently favor the reorganization of public education according to the 6-3-3 plan. The other "Divisions" are: financing the school system, material environment and equipment, the state and the teacher, and the more general oversight of the state. The authors are apparently wonderfully impressed with the Annual Reports of the Carnegie Foundation, to judge from the proportionate amount of space they give to insertions of "copy" from these reports.

W. S. DEFFENBAUGH. School Administration in the Smaller Cities. Washington: Department of the Interior, Bureau of Education. Bulletin, 1915, No. 44.

Here, as in all recent surveys of school systems, the recommendation for making the city superintendent the responsible head of the school system rather than the servant of the board is urged. This follows, as it certainly should, the suggestion that the school board look more carefully into the qualifications of the candidates for the position of superintendent, and assure themselves that the candidates have at least the initiative and the training necessary for leadership.

Teachers' salaries in the cities reporting show an average of less than $600.00 per year for elementary teachers and about $850.00 for high school teachers, a fact which makes it obviously impossible to secure really well trained teachers. The almost uniform uncertainty of tenure under the system, by which each teacher is automatically thrown out of her position each year until re-elected, is considered bad in its effect on the teacher. The author favors some form of permanent tenure, such as Massachusetts, California, Oregon, or New Orleans, Louisiana, now has.

Many other phases of school administration are briefly treated, but most of the bulletin, including numerous statistical tables, deals with the school board. It professes to be no more than a beginning in this field. The report would have been more easily intelligible had tables been interspersed with the first hundred pages of reading matter, showing tendencies and practices which are laboriously gathered from data in which such tables are lacking.

FREDERICK E. FARRINGTON. *Commercial Education in Germany.* New York: Macmillan Company, 1914. Pp. ix, 258.

This book is a very valuable addition to educational literature. The first chapter contains one of the best brief descriptions of the school system of Germany we know of. Following this excellent exposition of the system of state education the "setting" of lower, middle and higher vocational schools is clearly set forth and evaluated. The curriculums of the lower continuation commercial schools are detailed first, and in succeeding chapters are explained the organization of instruction and the methods of teaching. Particularly valuable are the author's analyses of the topical organization of the units of instruction within the different courses making up the commercial curriculums of secondary grade. Discussions of colleges of commerce and a concluding chapter on desirable American adaptations of the most valuable features of Germany's commercial educational system conclude the treatment. Two Appendices deal respectively with the apprentice's indenture and an illustrative lesson in Commercial English.

CARL RUSSELL FISH. *American Diplomacy.* New York: Henry Holt and Co., 1915. Pp. 541.

A brief yet comprehensive and balanced authoritative account of the history of American diplomacy. It will be welcomed just now as, written by an authority, it is sure to prove helpful in the necessary task of diffusing both to students and to general readers a knowledge of our national diplomacy. Somehow public education must find effective means of increasing our knowledge of international affairs and of making us more "internationally minded." The volume represents a "condensation of ascertained conclusions" rather than merely an independent study of sources.

HENRY HERBERT GODDARD. *The Criminal Imbecile.* New York: The Macmillan Company. Pp. xi, 157. Price, $1.50.

The author prophesies an early recognition and application of good psychological procedure to the court room. He gives an account of three noted murders of the past two years, singularly brutal and deliberate apparently, and unique in that the trials were the first in which the Binet-Simon tests of intelligence have been admitted as evidence in a court room. Measured by these tests, none of the murderers possessed more intelligence than an average 11 year old child.

The author writes the present book in an effort to show that much crime could be avoided by keeping imbeciles of the higher type in institutions. It is largely in vain to imprison or put to death such criminals as these, as was done in two of these cases, after the crime is committed. Preventive measures are necessary.

WILLYSTINE GOODSELL. *A History of the Family as a Social and Educational Institution.* New York: The Macmillan Co., 1915. Pp. xiv, 588. $2.00.

Current educational theory of the legitimate educational functions of the school and the family should be based more clearly upon conceptions of the family and of the school which take into account the entire historical developments of each of these social institutions. The present volume deals with the history of the family from primitive types, through the Hebrew, Greek, and Roman patriarchial families, into the influence of early Christianity upon marriage and family custom, the family in the middle ages, during the Renaissance, the English family in the 17th and 18th centuries. The latter part of the book treats the family of the American colonies, the effect of the industrial revolution upon the American family, the 19th century family, and "the present situations." The author closes with an interesting speculative and analytic chapter which has for its theme "current theories of reform."

FRANK PIERREPONT GRAVES. *A Student's History of Education.* New York, 1915: The Macmillan Company. Pp. xxv, 453.

Professor Graves feels that the History of Education as an essential subject in the courses for the training of teachers is at the present time on trial. It is. Many school administrators are convinced that it has been a popular course in college departments of education chiefly because it is clean cut, full of memorizable material, and easy to give an examination of the traditional sort upon. This author repeatedly urges that a volume which will meet the present needs must treat its materials in a more practical way and from the new point of view of description and appreciation of what actually took place in the schools of the different periods of history. He has consequently not sought merely to abridge his earlier three volume work but has largely rewritten his history from the above new angle. Twenty-four plates add greatly to the effectiveness and interest of the volume.

The author seems to have avoided some of the bad features of current histories of education, such as the inadequate sketchiness and purely unsupported individual impressionism of Emerson's Evolution of the Educational Ideal, the assumption of a philosophical background of appreciation on the part of the reader of Davidson's History, the questionable attitude of Parker in his History of Elementary Education in assuring the reader that Herbart, Froebel, etc., can be just as well understood without as by a reading of their systematic philosophical works, and the excessive detail of classification of Monroe's Textbook. On the other hand some of the distinctively good features of each of the last four authors' works have by no means been surpassed.

Charles Downer Hazen. *Europe Since 1815*. New York: Henry Holt and Co. Pp. xxiv, 830. School Edition $3.00, Library Edition, $3.75.

It is almost impossible to write of this volume without extravagant comment. It practically has no rival. In style, in historical judgment, in choice of emphasis, in ruling conception, in evident desire for profound interpretation without national bias this book affords what even the best of current historical literature produced since the world war began cannot possibly do, a restful sense that one need not be so consciously on his guard for subtle personal "unneutral" historical bias.

The author appears to have succeeded in explaining the internal development of the various nations since the downfall of Napoleon, and to have put in proper perspective the "vital and formative" external relations. One senses all along the fascinating tendencies of the century, the "long trains of causes, of sharp and decisive events, and of the potential activity of commanding personalities," in the building up of nations like Germany and Italy and the Balkan states, the "transference of power from oligarchies to democracies," the gradual expansion of Europe and its insistent and growing pressure upon the world outside, shown in so many ways and so strikingly in this age of imperialism and world-politics, the increasing consciousness in our day of the urgency of economics and social problems. One's sense of the requirement of clearness and justly proportionate treatment is never violated. One reads here the histories of a dozen different peoples, having many things in common, yet very unlike in character, problems, stages of development and mental outlook. The author is not slavishly dependent upon any literal chronological order and this freedom of treatment of each nation in turn as it developed to its present status and quality accounts for the fact of the compelling interest of the work. When the national interaction has been intimate, as for example of Austria, Prussia, France and Italy, he brings the treatments more or less together, returning again to the 1815 starting point to trace the century histories of England, Russia, Turkey and the lesser states.

If we can capitalize the present interest in national histories and in social science, both in added time in curriculum requirements and in students' reading generally, it appears that nothing could be much more wholesome for high school students than information and interpretation of recent history such as this book seems so effectively to afford.

It speaks well for the reading public generally in America that this solid volume is, next to works of fiction, one of the "best-sellers" as well as one of the most popular text books. The author's style is all that could be desired.

Horace A. Hollister. *High School and Class Management.* New York: D. C. Heath and Co., 1915. Pp. xvi, 314. $1.25.

The author of this volume has been inspecting high schools in Illinois for thirteen years and writes from the point of view of an inspectorial analyst of the high school as an institution of a democratic state, of the comparative values of different plans of class room management, and of methods of instruction in different high school subjects. Part I deals with the origin, development of functions, modern conceptions and favorable conditions of growth of high schools. Part II, "general management," contains in a reorganized form much of the materials contained in the author's former volume on "High School Administration," such as school organization, employment of teachers, internal government, administrative units, advisory functions, material conditions, daily programs, attendance, etc. Part III, a difficult field for one mind to canvass and compass, attacks the complicated and technical problems of teaching techniques for the different subjects in the high school program. It is well to have condensed in one volume the convictions and reports of long observation of one who has had occasion to visit on the average about a hundred different public high schools each year for thirteen years.

H. A. Hollister. *Report of the High School Visitor.* University of Illinois, 1914–15. Pp. 52.

This account contains a brief sketch of the historically significant developments of high school inspection by a typical western university and is valuable for that reason. High school inspection is differently administered by different universities. At the University of Illinois the work of this department covered by this report embraced visitation of schools, addresses and "advisement," organizing and directing annual high school conferences, and publication of various bulletins. The report contains as a sort of appendix three studies, one a comparison of achievements of graduates in vocational and non-vocational courses in high schools with their achievements in the freshman class of the university, one the comparative achievements of students coming to the university from various types of high schools as private schools, small high schools, North Central high schools, township high schools, Chicago high schools, etc.; and one a study of costs of high schools by counties in Illinois.

H. A. Hollister. *Township and Union District High Schools in Illinois,* University of Illinois School of Education Bulletin, No. 40. August 2, 1915. Pp. 30.

This bulletin contains important statistics concerning the one hundred such township high schools in Illinois, together with the different statutes as they have progressively been amended. There is some discussion of the curriculum needs of these schools.

CALVIN N. KENDALL AND GEORGE A. MIRICK. *How to Teach the Fundamental Subjects.* Boston: Houghton, Mifflin Company, 1915. Pp. ix, 329. $1.25.

This book does not belie its title. It assumes the fundamental subjects and ordinary school conditions and proceeds to discuss simply and helpfully, if without special originality, the guiding principles as to the selection of material for the courses and methods of dealing with the material selected. Topics of the succeeding chapters are English, mathematics, geography, history, civics and practical hygiene.

FRANK MITCHELL LEAVITT AND EDITH BROWN. *Prevocational Education in the Public Schools.* Boston: Houghton, Mifflin and Co., 1915. Pp. 245. $1.00.

All school administrators who contemplate any changes in their intermediate grade subjects and curriculums, especially in the direction of partial differentiation for distinguishable groups of upper grade pupils, should by all means examine the proposals made in this important book.

The authors have planned the volume as a sort of handbook for those administering a new or renovated curriculum for 7th and 8th grade pupils who cannot profitably pursue the traditional course. The authors have in mind a type of general education which is better for a certain sort of grade pupil than the older general course and which at the same time lays a better foundation for the vocational courses. They claim that the proposed course is at least equally "cultural."

The authors insist that they have not evolved the work out of their own personal theorizing, but instead have based their specific recommendations upon the educational experience of experimental industrial classes in the University of Chicago training school, prevocational classes in the Lane Technical High School of Chicago, and prevocational work in other cities such as Boston, Seattle, Kansas City, Louisville, Cincinnati, and Milwaukee.

There are two fundamental bases upon which work of a prevocational character might be built up into a genuine junior high school or intermediate school curriculum (or set of curriculums). One of these would be a social or industrial basis, differentiating with reference to the differing requirements in the groups of related trades or other likely occupations for which the school children are presumably destined, a basis upon which Ayers built his recommended curriculums for Springfield, for example. These might or might not coincide with the psychological requirements arising out of the very psychological natures of the pupil types concerned The authors of the present volume prefer to try to build their new curriculum with sole reference to one distinguishable type of grammar grade pupil, a fairly large number of whom are found in every school system. The volume describes the nature and purposes of prevocational education, how it represents a natural development of the school system, how to start prevocational classes, how to pick out the "prevocational" pupils, the appropriate subject-matter in general, and (the best part of the book) applications of these principles in the school subjects (made over beyond recognition) of physiology, history, science, English, mathematics, shopwork and drawing.

MR. AND MRS. GEORGE WALLINGFORD NOYES. *An Experiment in Home Education.* Fulton, N. Y., The Morrill Press, 1914. Pp. 24.

Mr. and Mrs. Noyes, believing that in certain respects the home has a natural educational advantage over the school, have carried on for two and a half years their experiment in home education. By equipping their house with labor-saving electrical and mechanical conveniences, such as, connection with a central steam heating plant, electric vacuum cleaner, kitchen range, dish washer, etc., they have been able to dispense entirely with hired servants residing in the house, and to do with the help of the children all the necessary household work without overburdening any member of the family. The results of the experiment they believe highly satisfactory, especially from the standpoints of education and character building. The children have formed habits of industry, have learned more of practical value than would be possible in domestic science courses, have formed the right ideas of the value and dignity of work, and have gained in health, social efficiency, happiness and moral development. In addition to this they have been able to carry on effectively their regular school work, and have had time for outside recreations and pleasures. Furthermore there has been an economic gain and an improvement generally in all matters relating to the upkeeping of the household.

FREDERIC L. PAXSON. *The New Nation.* Boston: Houghton, Mifflin Co., 1915. Pp. 342, xiv. $1.75.

This is the last volume of a four-book historical series entitled "The Riverside History of the United States" of which William E. Dodd is editor. The volumes are of the convenient pocket size, on clear paper and in excellent type. If one were now asked where to go to find a set of books to recommend to high school students to read just for information about their country's history, books they could read in order to possess in effective outline America's career as a nation, books which for such a purpose every town and every high school library and every school administrator and every teacher of American History in these public schools should have at hand and in mind one has the comfortable feeling that one such series at least exists. Professor Becker of the University of Kansas writes the first volume, "The Beginnings of the American People," and writes it in a captivating style which takes away from the reader any distracting feelings of the wrong sort of effort called for in the reading. Professor Alvin Johnson of Yale in "Union and Democracy" follows with a volume on the forty years of constitutional adjustment and colonization of the vast west as it engaged in the pioneering work of home-making and grappling with the universal wild conditions. The editor writes the third volume, starting from the days of Andrew Jackson and tracing the "adolescent upheavals" of our young national life attendant upon the Civil War and its aftermath, emphasizing "why things happened as they did as well as how they happened."

The author of the last volume of the series "The New Nation" starts his historical narrative with the close of the Civil War where "the actualities that must be faced are the facts that the dominant party saved neither the nation nor itself except by changing its identity; that economic and industrial progress continued through the war with unabated speed, and that out of the needs of a new economic life arose a new nation." Mr. Paxson's "New Nation" is the, to some, "old" nation which appeared at the end of the Civil War. The new nation came in with the new economic life. The author sets out to examine these problems that became "issues." He does so in this handy small volume without becoming too sketchy and yet avoiding the tone and attitude of a propagandist. Doubtless much of prejudice, based on lack of knowledge of the aims and struggles of the earlier westerners, is at the present time confusing our nationalism. This book especially, of the notable series, makes possible the appreciation of a larger and more complex background for our urgent and delicate task of building a common national self-consciousness of our modern citizenship.

LESTER BURTON ROGERS. *A Comparative Study of the Township District, Consolidated Town and City Schools of Indiana.* George Banta Publishing Company, Menasha, Wisconsin. 1915. Pp. vi, 210.

This volume contains the results of a state study of four types of schools, with particular reference to determining the educational merits of the consolidated school. The author selects twenty-five counties in Indiana in which are found all four types of schools to be compared and which represent the state geographically. He examines, for his institutional comparison, all these schools in all respects in which it seems any comparative judgment as to institutional merits may be reached. He estimates the four types therefore as to buildings, seats, absence of double seats, decorations, school libraries, public support of libraries, supply of supplementary text-books for the different school subjects, sanitary provisions, especially toilets, etc. Here he finds the consolidated school scores high. As to teachers, feminization prevails increasingly as the size increases, the training of teachers is twice as good as in the district school, experience and salary showing up well also. There seems to be no advantage with respect to special teachers for special subjects. Evident advantages are easily seen in the following respects: ratio of enrollment to school courses, daily attendance, length of school year, power of holding pupils, and more "equitable" distribution of items of school budget. The per capita cost is strikingly higher than in any other type of school, due to graft and political management.

With respect to student activities, community activities, supervision, and enrichment of curriculums the consolidated school shows surprising evidences that it is not realizing its opportunities. It would seem that these, materially finely equipped rurally situated school plants go at once to aping city schools, not only as to student activities and community gatherings (unoriginal and imitative), but that, in the respect in which such schools are supposed to be unique, the courses and curriculum organizations of instruction, they have failed to introduce the newer subjects peculiarly adapted to rural life, less than fifty per cent. having made any special provision for these subjects. Also "little effective constructive supervision is found outside the larger cities."

The author proceeds to enumerate evils of this principle of school administration units, claiming that schools should be consolidated with reference to centers of population, topography of the country, and condition of roads. The author's solution is the county as the unit of administration. He concludes his volume therefore with the elaboration of his constructive plan of reorganization. The study is valuable and will be read with interest and profit by all students of administration and should be read by all county superintendents.

FREDERICK WILLIAM ROMAN. *The Industrial and Commercial Schools of the United States and Germany.* New York: G. P. Putman's Sons, 1915. Pp. xv, 382. $1.50.

Most of the results of this study represent first hand experience by the author himself. He spent two and a half years in Germany and has since been a keen student of educational practices and ideals in this country which in character are comparable with those observed ten years earlier in Europe. Part of the volume consists of statistical studies and their interpretation. Other portions deal much more interestingly with urgent and vital modern issues of immediately practical import. If one judges from the fervor of presentation the most personally interesting topic for the author is that fought over in this country frequently of late, dual or single control of liberal and vocational education. Professor Roman seems definitely opposed to every feature of the Cooley Bill, and in this part of his book writes most forcefully and with greatest animation. He seems, too, to make out his case. In discussing matters more fundamental than questions of administrative control he, although an admirer of German efficiency, still creates the impression that he sees some elements of a thorough democratic system of public education in our own looser methods. Regarding commercial education in the United States and Germany the author points out the fact that with us commercial education of secondary grade preceded industrial while in Germany the order was reversed.

J. E. Wallace Wallin. *Spelling Efficiency in Relation to Age, Grade, and Sex, and the Question of Transfer.* Educational Psychology Monograph. Baltimore, 1911, Warwick and York. Price $1.25.

Wallin outlines the arguments for and against each of the two methods of teaching spelling; the drill method and the incidental method. He holds that the results from investigations conducted in the Cleveland schools refute the principal argument of the incidentalist, that proficiency in drill or formal spelling does not transfer to situations in which spelling ability is worth while. He finds that instead of a large or constant loss, there is never a large loss in the transfer and that there is often a positive gain. He recognizes the incidental method as useful, but would have it always combined with some drill.

In Wallin's tests girls proved very generally superior to boys in spelling ability. This superiority increased from the lower to the higher grades. This point forms an interesting contrast to the conclusions of Bonser in his investigations in arithmetic. The latter found that boys were markedly superior to girls in arithmetical ability, but, as in Wallin's study, the comparative ability of the girls rose in the higher grades. The younger members of a grade were consistently the best spellers.

The bibliography appended is very brief and incomplete.

William T. Whitney. *Moral Education. An Experimental Investigation.* Boston, Leroy Phillips. 1915. Pp. vii, 108.

This little volume contains an interesting and important discussion of an educational problem of great current concern. Mr. Whitney bases his discussion of moral questions of the school upon a prolonged and personal study of six hundred boys and six hundred girls for a period of five years.

The book contains eleven chapters as follows, the demand for moral education, the quantitative investigation (with graphs showing correlation of deportment records with scholarship, etc.), the home as a factor, the method (claiming the necessity of both indirect and direct methods of instruction), the teacher, the physical life (very good), manners and morals, the recitation as a medium of moral instruction, religion and morality, the *content* of moral education (with an outline of topics for fifth to eighth years inclusive), with a final chapter evaluating what the public schools have done.

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EDUCATIONAL
ADMINISTRATION AND SUPERVISION

The Character and Extent of Desirable Flexibility as to Courses of Instruction and Training for Youths of 12 to 14 Years of Age*

David Snedden
Commissioner of Education for Massachusetts

I. PRESENT SITUATION

THE efforts now being made in various States to reorganize curricula of training and instruction for children from 12 to 14 or 15 years of age constitute undoubtedly one of the most significant and important of contemporary movements in education. We are justified in assuming without argument that the scope and character of that instruction and training will be materially modified in the near future. Readjustments in administrative plans, restatement of purposes, and new developments in means and methods employed may all be expected. For some years educators have discussed plans for a "six and six" division of the years given to elementary and secondary education; and we now hear much about the intermediate school and the junior high school as means of providing better education for children from 12 to 14 years of age. Already a large number of interesting experiments along these lines are being tried. These experiments suggest several quite distinct questions of an administrative nature. For example: (a) Is it desirable that pupils in the 7th and 8th grades, or even all elementary pupils over twelve years of age shall be taken away from schools containing the first six grades, to be taught in large central schools in urban communities and in connection with high schools in rural communities? (b) Have studies suited to children of these ages, and highly desirable for some of them, so multiplied that a wide range of possible choices now exists or would exist if school organization permitted? (c) Is it desirable that different courses of instruction shall be available for pupils of these ages—courses having common studies perhaps, but varied by means of optional or alternative studies so as more nearly to meet the needs of varying powers, interests and probable future possibilities? (d) Is it desirable that courses of instruction shall be so flexible that individual pupils will be enabled to elect studies so as to make individual programs of instruction?

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*(An Address delivered before the Department of Superintendence of the National Education Association at Detroit, February 23, 1916.)

The writer holds that the theses given below can now be defended effectively and in this paper it is proposed to contribute towards their discussion:

(a) The educational needs of pupils of 12 to 14 years are variable to such an extent that if conditions of educational administration permitted, a number of courses of training and instruction, dissimilar as to many important elements and also even as to quality of results expected in common studies, should be provided.

(b) The number and variety of subjects of training and instruction suited to, and desirable for, at least some important groups of pupils of these ages are now far too large to be properly included in the educational program of any one learner; and the number and variety of these desirable studies tend steadily to increase.

(c) It is highly probable that as regards flexibility of courses of instruction and training, the school suited to the needs of pupils from 12 to 14 years of age will in essential respects repeat the history of the liberal arts (general) college and the general secondary school which, in the early stages of their history, offered uniform curricula composed in the main of prescribed studies; but which subsequently and in ever increasing measure found it desirable to increase the range of their studies and to give pupils wider latitude in making individual programs of study.

(d) While it may safely be assumed that for some years to come at least the individual programs of instruction and training for all pupils of from 12 to 14 years of age will be required to contain studies or elements common to all, nevertheless, it is even now expedient and desirable in well organized schools and, of course, subject to administrative limitations as to expense and also subject to certain general conditions hereafter to be described, to allow pupils to elect individual programs in large measure from among all the subject courses offered.

The discussion of these will involve: (a) Some definitions of the terms used; (b) an analysis and classification of some dissimilar objectives in the education of children from 12 to 14; (c) a possible ideal curriculum for a large central junior high school; (d) discussion of the varying educational needs of children of the ages in question; (e) some pros and cons of election of courses and subjects; (f) desirable controlling principles of election in the junior high school; and (g) conclusions.

II. SOME DEFINITIONS AND EXPLANATIONS

Contemporary discussion of educational problems is often footless because of the vagueness and ambiguity of the terms employed. Educators have as yet agreed upon no effective standardization of terms, even those most frequently employed. Hence the obligation rests on speakers and writers clearly to define the senses in which they use terms that have no well established and generally accepted meanings.

"Curriculum" is used here to denote the entire range of studies and other systematic educational activities made available in a given school. "Flexibility of curriculum" indicates possibilities of providing in or adapting from the curriculum courses for classes of pupils or for individual pupils. A curriculum is flexible when it offers choice among two or more rigid courses; and also when it permits election of subjects in such a way as to provide individual courses—commonly called pupils' programs of studies. The phrase "course of study," without qualifying term, means the group of specific courses of study in subjects, arranged for an assumed group or class of pupils, and covering one or more years. "Course of study in Latin" (or other subject) signifies the materials of this subject arranged for a definite period, as for one year, the general term hereafter used being "subject courses."

"Teaching unit" is the term here used to describe a definite portion or phase of a subject, taught with a specific objective in mind, and of such brevity and integral character that it forms a clearly comprehensible step for the pupil. "Lesson," "topic," "exercise," "project," etc., designate teaching units that have been employed in the past.

"Education" is divided into instruction and training, because these two phases possess, or should possess, somewhat unlike psychological characteristics.

III. UNLIKE ENDS OR OBJECTIVES IN EDUCATION

Every specific subject or even phase of subject of school work should, of course, be taught with certain conscious ends or objectives in view. These objectives or goals determining the teachers' aims are but illy defined at present, especially where the education of children from 12 to 18 is concerned, but we may expect them to be more fully analyzed and stated in the near future, as educational processes become more scientifically correlated between social and individual needs on the one hand, and individual powers and possibilities on the other. But in the light of present experience, it seems highly desirable to classify the objectives of the education that is adapted to children of from 12 to 14 years of age into at least two groups according to the presence or absence in each study or phase of study, of certain fundamental characteristics. A few concrete cases will make this clear.

The objects to be attained in teaching a pupil to spell, for example, differ essentially from the objects to be attained through having the same pupil listen to a good musical recital or witness a dramatic performance. It is unfortunate that educational psychologists have not given more attention to the fundamentally unlike character of the learning processes here contrasted. In teaching spelling the outcome expected on the part of the pupil is a certain quite definite and easily recognized ability to *do*, to *execute*, to *express in action*, and the learning process cannot be terminated economically until this end is achieved. On the other hand the learning achieved in hearing a recital or witnessing a dramatic performance (and we are agreed that some form of learning is thus achieved) can be subjected to no profitable test of *expression*, of *doing*. We expect absorption, assimilation, growth, as results, but the final outcome is so remote from the original stimulus that we do not, ordinarily, seek to trace connections.

For the sake of convenient classification, let us call the first type of learning the alpha type, and the second the beta type. Let us repeat that the conspicuous result expected in the case of the alpha type is ability to *do*, to *express in action*, while the most tangible result expected in the case of the beta type is *appreciation* or, in one sense of the word, *interest*.

In the 7th and 8th grades, it is probably in accordance with sound pedagogy so to teach arithmetic, penmanship, composition, spelling, and, presumably, grammar that these subjects should properly fall in the alpha class. On the other hand, literature, science, and civics are, or doubtless ought to be, so taught as properly to belong to the beta class.

History, geography, music, art and practical arts seem to be composite. It is manifestly important, for example, that certain phases of history and geography should be so definitely taught that the resulting fixed knowledge becomes as available and inerrant as should be knowledge of the multiplication table. But it is intolerable that all geography and history as organized for children from 12 to 14 years of age should be so taught. Most of the supplemental material used, and indeed much of the contents of the text books in current use, also, should be read, talked over, and the resulting impressions assimilated, but no *fixed* and instantly *usable* knowledge need be expected in these cases. Hence the proper organization of these subjects should involve a conscious and definite differentiation between alpha and beta portions teaching units or phases.

It is difficult to determine the effect of the differentiations here proposed on music and drawing (or art) because the purposes of these subjects in elementary education are, as yet, so imperfectly defined. It is probable that both subjects are now composite, and that in the interest of effective teaching they should be differentiated into alpha and beta phases or teaching units. There is much discussion at present of the teaching of music for the purpose of developing musical *appreciation*. Picture study has a place in some schools for a similar purpose. Clearly these are beta phases of these subjects. But it is also probably desirable that some children should be taught to *execute* music—that is, to read musical notation accurately, to sing, or to play. These are clearly alpha phases. Perhaps, also, upper grade pupils should be given definite drill in drawing as an art of expression—also an alpha phase.

Now the distinction here made is of fundamental importance in any discussion of flexible courses, or elective systems, because of the probability that the right and expediency on the part of the school of prescribing studies or phases of studies applies with far greater force to the alpha group than to the beta group. For one thing, the processes of learning in the alpha group are much more arduous, as a rule, than in the beta group; but in the alpha group, at least for the elementary school, will be found many of the common intellectual tools of civilized society—the arts of oral and written expression, receptive (or silent) reading, definite knowledge of geographical and historical facts, simple principles of hygiene, generally accepted rules of behavior, etc. On the other hand, learning in the beta group is easier, or should be, if needed adaptation is made for individual interests; and in respect to appreciation studies generally, society can well afford to have and perhaps even to procure a large degree of variability rather than of uniformity among its members. We should all spell alike and have in common a definite knowledge of some of the facts of American history; but it is of advantage rather than disadvantage that our people should vary greatly as to the fields or individual examples of literature, and of history, in which they find interest and satisfaction.

It should, then, theoretically prove possible for us to enumerate all the desirable ends or objectives in the systematic education of young people from 12 to 15 years of age, and to classify them into the two divisions suggested above, according as the learning sought is specific, definite, and instantly usable in active life, or as it results in appreciation, taste, modified sentiment, ideal, and undifferentiated background of knowledge (otherwise experience and intellectual nurture.)

IV. THE POSSIBLE CURRICULUM OF THE JUNIOR HIGH OR INTERMEDIATE SCHOOL

In order to set clearly before ourselves, without unnecessary restrictions, the possibilities of flexibility in the school for children from 12 to 14 years of age, let us assume a very large city school receiving only pupils who have completed sixth grade work, and designed to retain these pupils for but two or three years. Let us assume further that the school possesses financial means sufficient to enable it to organize and offer any kind of instruction for which there is a substantial demand, and which in the judgment of the authorities it is wise to offer to pupils of the stated years and qualifications. Let us furthermore assume, for sake of concrete description, that the work is offered as units, a unit consisting of the equivalent of five weekly periods of 60 minutes each, extending through twelve weeks, to cover both instruction and recitation, and any other form of exclusive claim on the attention and energy of the pupil of average power for the 60 minutes. Theoretically, then, in view of recent progress in enriching elementary school curricula and in urging desirable new forms of instruction and training, the following subject courses might profitably be offered in grades seven and eight in such a school, the alpha and beta units being separately indicated:

Name of Subject	Alpha Units	Beta Units
(Figures at left refer to explanatory notes at end of section.)		
(1) English Expression:		
(2) Oral Expression	6	
(3) Written Expression	6	
(4) Grammar	3	
(5) Word Analysis	1	
(6) Spelling	1 or 2	
(7) Penmanship	1 or 2	
(8) Alphabet	1	
(9) Silent reading	1 or 2	
(10) General History		6
(11) American History	3	3 or 6
(12) Community Civics	1	2
(13) Literature	1	5
(14) General Moving Pictures		3
(15) Music, Individual Vocal	3	
(16) Music, Chorus	1	
(17) Music, Piano	3	
(18) Music, Appreciation		3
(19) Music, Band	1	
(20) Drawing, Representative	2	
(21) Art, Appreciation		3 or 6
(22) Geography	1 or 2	2 or 4
(23) Science, General	1	2 or 5
(24) French	3 or 6	
(25) German	3 or 6	
(26) Spanish	3 or 6	
(27) Latin	1 or 2	2 or 4
(28) Industrial Arts		3 or 6
(29) Agricultural Arts		3 or 6
(30) Commercial Arts		3 or 6
(31) Household Arts		3 or 6
(32) Arithmetic, Commercial	3 or 6	
(33) Arithmetic, Industrial	3 or 6	
(34) Arithmetic, Home	3	
(35) Arithmetic, Geometry and Algebra	3 or 6	
(36) Hygiene	1 or 2	2 or 4
(37) Physical Training	1 or 2	5 or 4
(38) Vocational Guidance		3 or 6
	58 or 88	52 or 82

(1) To include all general studies designed to give greater power in the use of the vernacular, oral and written.

(2) Including reading aloud, "speaking," correct use of voice, "oral composition" (or sustained delivery to audience), debate, correct usuage, etc., all from standpoint of effort to secure definite attainments.

(3) Composition, letter writing, correct usage in writing, etc.

(4) Systematic analysis, with correction of personal solecisms.

(5) Origin and structure of common words.

(6) Chiefly to meet individual needs. Good spellers excused.

(7) Chiefly to meet individual needs. Good writers excused.

(8) Drill in alphabet, to produce readiness in use of indexes, dictionaries, etc.

(9) Drill in technique. The subject not clearly defined as yet, but evidence exists that it is very important.

(10) A general reading and lecture course—no drill.

(11) Selection of special details and fundamental generalization for drill for alpha units; general and interesting phases of subject as beta units.

(12) To include a small amount of definitely organized knowledge as alpha units. Beta units to cover thrift, reading of sanitation, practice voting, school self government, readings, visits, etc.

(13) Close analytical study of one or two selections, and certain central facts of literature, under alpha units. Beta units to include home reading, library, etc., but no requirement as to uniformity of material for all pupils. Individual choices, subject to approval of instructor.

(14) That is, not definitely correlated with other subjects, and designed chiefly to enhance discriminative appreciation of moving pictures as a means of education and diversion.

(15) Drill for pupils having marked capacity to profit from such study.

(16) Selected group desiring drill.

(17) For selected pupils desiring definite training.

(18) All available forms of music offered to all desiring such training.

(19) Selected group desiring definite training.

(20) A general course; additional specialized work in practical arts.

(21) Plastic and decorative, and in part correlated with practical arts, but should include pictures, room decoration, architecture, advertising illustration, and moving pictures.

(22) Separation of formal or drill phases from appreciative phase, preserving correlation, by means of specific "teaching units" for both alpha and beta phases.

(23) Largely interpretive of scientific aspects of surroundings.

(24 to 26) To produce mastery of spoken or of written language, according to predetermined aims.

(27) For drill in part. Subject could be reorganized to give insight and appreciation (beta units) in part.

(28) Miscellaneous shop experience on projects from wide range of industries, including reading about the industries, and other means of enriching experience. Projects from textile, printing, metal working, wood working, food packing, transportation and other industries. Amateur standards of achievement, not "professional."

(29) Including gardening, poultry raising, correlated reading, etc.

(30) Typewriting, elementary bookkeeping, commercial penmanship, commercial readings, visits to commercial establishments, etc. Much of it on practical project basis.

(31) Primarily to build on home experience and to enhance appreciation.

(32 to 34) To be definitely practical subjects, correlated with practical arts courses.

(35) Recommended for pupils expecting to enter high school and, later, college.

(36) To include certain alpha phases for definite knowledge and practice—teeth, posture, etc.—and others (beta) for insight and wide appreciation.

(37) Some definite physical training to cure defects or to prevent apprehended defects (alpha units). Games, "boy scout" activities, miscellaneous developmental play, athletics, etc., for beta units.

(38) Readings, individual conferences, lectures.

V. THE VARYING EDUCATIONAL NEEDS OF CHILDREN OF TWELVE TO FOURTEEN YEARS OF AGE

The foregoing idealized curriculum shows clearly that there is even now available for possible use in courses of study for the junior high or intermediate school many times as much material as any one pupil can compass. Common experience teaches that hardly any subject is included above which can not be "used" in some educational way, and to the interest and advantage certainly of individuals and even of groups of pupils. But there are no great number of these units that can reasonably be regarded as essential to all pupils alike, and which therefore should be universally prescribed as positive requirements. Equally, there are few that any pupil should be prohibited from taking if he wishes—here called negative prescription.

But what shall be the bases of these positive and negative prescriptions? They certainly include at least the following: (a) the limitations imposed by the varying native capacities of pupils; (b) the requirement that each pupil, even against his own desire and that of his parents, shall, as a part of his right to a protected childhood and as a logical accompaniment of compulsory school attendance, be required to receive the instruction and training that will probably be necessary or greatly advantageous to him in later life; and (c) the right of society to have each person fitted as far as may be to take his part as citizen, parent, soldier, and worker in a world where all human activities are increasingly socialized and corporate in character.

No argument is required to prove that children of twelve to fourteen years of age vary greatly as to natural capacity. Some are so talented that they can carry a large program of studies with ease and profit. Others are fortunate if they can, only at best, meet minimum requirements. Some are born with natural gifts for music, foreign language, and drawing. These pupils can master their favorite subjects with an ease not possible to children less gifted in these directions. It is the observation of every teacher that some children have inferior natural capacity for arithmetic and other forms of mathematics, while others find only slight difficulty in these subjects, even in portions where rigorous abstract thinking is required. These natural limitations will therefore be influential in determining what large numbers of pupils will, or will not, be allowed to take.

On the other hand, the rights of the child, irrespective of his own desires in early youth or those of his guardians, to obtain or be given the education essential to a fair start in life are of paramount importance. This right applies not only as regards those minimum attainments in reading, writing, spelling, and number which are to be expected of all normal children; it should include also the requirement that children, manifestly talented in certain directions, shall be obliged at a suitable age to begin studies, such as foreign language, that may later, as far as can reasonably be foreseen, prove essential in the careers and positions of personal influence towards which their native powers seem to direct them.

Finally, no one will dispute the obligation on the part of society to require all persons to acquire in childhood at least the minimum of knowledge and training which is essential to their successful participation in corporate life. Not only are the arts of expression to be included here, along with moral training, knowledge of civic facts and responsibilities, and everyday arithmetic; eventually each person may be required to submit to training for a vocation, and for the work of the soldier. Society must give these kinds of education as a means of self-preservation.

But, when an extensive curriculum of subject courses is offered in a school, the burden of proof rests on the school to establish a strong presumption as to the necessity of the units which are prescribed, whether for all or for those electing stated courses. Subject to the requirement that the pupil and his parents provide for the full use of the pupil's time, the learner should be free to elect his own program of studies, unless the school authorities can definitely establish the desirability of prescription.

VI. The Pros and Cons of the Elective System

Clearly, then, educators charged with organizing and administering education for persons from 12 to 15 years of age are, or soon will be, confronted by conditions which constitute, if the distorted figure may be permitted, a three horned dilemma: (a) Possible educational offerings (or opportunities for giving particular kinds of instruction and training) are becoming many fold more numerous than can be taken by any one individual or group or individuals presenting like characteristics; (b) the native capacities of pupils or of distinctive possible groups of pupils vary greatly; and (c) some subjects ~~of~~ OR phases of subjects, as yet not fully determined or defined, should in some cases be prescribed for all and in other cases for all having stated forms of ability or probable future field of usefulness. How shall the administrator proceed under these conditions? Shall he disregard, as he has heretofore done, the first and second considerations, and insist on a limited curriculum of prescribed studies for all, thus ignoring opportunities for varied training and instruction? Shall he include in his curricula all possible studies, but segregate them in rigid courses, so that each shall constitute a fixed system in itself, like a railroad route, of such a character that the pupil, once enroute, cannot cross to another line, and can only change his route of travel by going back to the starting point again? Or shall he simply organize the school offerings into one long series and allow the pupil to range and choose *ad libitum*? Manifestly, each of these courses is open to objection. They are all psychologically unsound.

In reality, each method is desirable and feasible as to certain elements or types of studies in the curriculum. Some studies or subject courses should be prescribed for all pupils; some should be prescribed only as component elements of definite courses, and therefore to be required only of learners electing such courses, while, possibly, elective to others; and some should be freely elective to all. But it is here contended again that as regards all prescribed work, whether generally prescribed, or prescribed for those electing specified courses, a heavy burden rests upon the authorities making the prescriptions to establish the presumption that it is *better* that these prescriptions should thus be made than that the pupil, subject to reasonable supervision from home and school, and to the general requirement that he must employ all of his school time profitably, shall freely elect his own course (subject, also, of course, to the limitations imposed by the necessities of efficient and economical school administration). Here we are, of course, at once involved in the old debate as to the merits and demerits of the elective system and the capacities of learners wisely to use such a system.

All of us have read (and perhaps participated in) lengthy discussions as to the elective system in college and school. We were long ago told that learners—whether college juniors or high school freshmen—were not old enough or wise enough or earnest enough to choose their own studies to advantage. They would usually choose "snap" courses. Their programs, under freedom of election, would consist of uncoördinated subject courses, the resulting learning would be fragmentary, discursive, and unsubstantial. "Easy instructors" would be in favor, real efficiency would disappear, and chaos would prevail.

It is a fact that in nearly all debate as to the elective system, its opponents have had the stronger arguments. The proponents, while usually able eventually to win the day in action because of favoring circumstances, have never, it would seem, formulated the most fundamental and strongest arguments in favor of their position.

It must surely be admitted that the pupil, whether in seventh, or tenth, or fifteenth (college junior) grade, is but poorly equipped to make so momentous a choice as that involved in electing the studies he will henceforth pursue. Almost equally, after college graduation, he will be but poorly prepared to elect his profession, his place of future work, his physician, his political party, a woman to be his wife. Here we express, of course, only an admission that our system of education includes as yet hardly any provision for adequately guiding the individual in the matter of many, if not all, of the important decisions he must make in life.

For, if we ask what is the alternative to free election of studies, even, let us say, in the college period of education, we are confronted by the fact that except in rare instances there exists as yet no organized procedure whereby the *individual*, with his limitations of capacity and opportunity, his interests, and his obligations to society, can be guided into making choices that best meet or serve his needs. The opponents of election have probably never asserted that they were ready to provide the personal attention and scientific insight that would be required adequately to have prescribed for the individual student on the basis of sound diagnosis the best program of studies for *him*. It is certain that in college and secondary school this could not be done for the sufficient reason that never yet have educators in these institutions accomplished anything substantial in the way of capacity for making scientific diagnosis of the capacities, limitations, and probable opportunities of individual learners.

Furthermore, even assuming that such diagnosis were possible at any period, the prepossessions of the advocates of rigid courses

—or, usually, of one rigid course—would probably have prevented them from studying the variant qualities of the minds of their students, again for the sufficient reason that the all important consideration, as teachers have believed, was the subject to be taught—Latin, algebra, Greek, rhetoric, logic, physics, etc.—and not at all the characteristics of the individual learner.

In other words, the historical alternative to free election, at least of courses, if not subjects, has been rigid prescription as determined by inflexible tradition or custom or educational theory. The variability of learners as to capacities, interests, and needs has been ignored. Traditions and dogmas as to the superior or even unique educational values of certain ancient subjects of study have governed. The newer subjects were intrinsically inferior, if not worthless, educationally, hence any choice of them has been regarded as necessarily bad. The thought that election of studies is bad has always been fathered by the wish that it should prove bad from the standpoint of the opponent whose favorite studies might not be elected.

The various attempts heretofore made to modify, on the one hand, the rigidity of the inflexible one-course curriculum, and, on the other, to prevent the wasteful possibilities of completely free election, have constituted admissions that adjustments of courses and studies, based partly upon the capacities of learners, and partly upon their varying needs, are highly desirable and probably feasible. But it is a fact that no satisfactory statement of the principles which would guide in the matter has, as yet, been formulated. There is still too often the naïve assumption that the "system"—that is, the collection of educational dogmas and traditions as expressed by unprogressive educators, usually through conference or committee edict—knows best what the "student" needs and should have. This is not an individual student, James Ferguson, for example, but an abstract human being, an educational John Doe, who has met entrance requirements and who is probably assumed to be taking his class attendance in the same spirit that he would a necessary, though distasteful, sentence to a hospital.

It is still too early, perhaps, to formulate the underlying principles which should govern flexibility of curricula and courses; but it is possible even now to apply to the possible junior high school curriculum the best results of contemporary theory and practice as to this educational problem in secondary school and college.

VII. CONTROLLING PRINCIPLES OF FLEXIBILITY IN JUNIOR HIGH SCHOOLS

If we take, for example, the entire range of subject courses that it is possible to offer in the junior high school, it is clear that all cannot be regarded as being on the same footing from the standpoint either of election or prescription. Some are essential to all, many essential to none. Some are essential in certain courses, others essential to no particular course. On the other hand, there are many that may well be regarded as educational luxuries —highly pleasurable to those who can afford them and surely not injurious to any who can take them without detriment to their more necessary work. But what are the subject-courses that belong in those respective categories? It is difficult for us to reach sound conclusions here because our prepossessions are at present so much stronger and more clearly defined than are any available findings based on scientific study. In the idealized curriculum for a junior high school given above there are found from 58 to 88 alpha units (or subject courses to be taught with the aim of producing power to *do*), and from 52 to 82 beta units (or subject courses in which *appreciation* is a controlling purpose). No one average pupil, probably, could take in two years more than 30 of the total 140 units supposed to be offered. A slow pupil could take perhaps not to exceed 20, while an exceptionally strong pupil could take 40. What requirements shall we make, what advice offer, and what liberty allow, to our junior high school pupil confronted by the above curriculum?

First, let us repeat that our attitude towards the alpha units should not be the same as that towards the beta units. If the beta units are taught (or, better word, offered) with due regard to appropriate pedagogical principles, we may experience difficulty in keeping pupils from them, or, at least some of them. They should prove inherently interesting to children as do play, the "movies," sports, and certain kinds of fiction, or as the opera, fiction, travel and association prove attractive to adults. On the other hand, the alpha units present, in the main, the characteristics of the harder work of the world. The interest with which they are pursued must often be a derived interest—derived in some cases, even, from fear of punishment, or fear of forfeiture of desired approval, or from love of gain or approval. Hence it can at the outset be asserted that prescription will be much more necessary in the case of the alpha than of the beta units.

Let us assume that a careful study of the capacities of average children of 12 to 14 years of age, coupled with an equally careful study of the objectives, individual and social, which should be realized through their education, shows that it is expedient and desirable that their two year programs could and should include substantially 15 alpha units and 15 beta units. We might then establish the following rules to govern the making of individual courses:

(a) Any pupil deficient as to spelling, writing, and silent reading shall be required to take these alpha subjects.

(b) Every pupil shall elect four alpha units in English expression, in addition to those required under (a).

(c) Every pupil shall elect at least six units designed to provide a definite course in one of the following fields,—(a) foreign language and mathematics; (b) commercial arts; (c) industrial arts (boys); (d) household arts (girls); (e) agricultural arts.

(d) No pupil shall have fewer than 15 or more than 20 alpha units.

(e) Every pupil shall elect at least 10 beta units.

VIII. CONCLUSIONS

The following are the conclusions of this paper:

1. The reorganization of education designed for young people from 12 to 14 is the most important contemporary movement in the field of general education.

2. It is right and proper that this period should continue to be reserved for general education (cultural, physical and social education), and that no specific vocational education should be offered in it; but—

   (a) Vocational guidance, based on communicated information (books, lectures, individual conferences), observation of men at work in vocations, and participation in simple processes derived from industry, all designed as phases of general education, is acceptable and desirable; and

   (b) Differentiated courses in practical arts, partly as a means of enabling each pupil to find himself, and partly as a means of acquiring valuable experience in reception and expression or execution (not necessarily contributing to vocational power, however), are desirable.

3. Central schools should, as far as practicable, be organized for all pupils from 12 to 14, to include not only the normal in grade, but the retarded as well. As far as practical, retarded pupils should take same studies as pupils of normal grade; and where, in the more technical studies, they cannot do this, special courses containing work especially adapted to their needs should be provided.

4. Whenever it seems that a new study can profitably be offered to a substantial group of pupils of these ages, it should be introduced.

5. It is to be expected that many more studies or subject courses will be offered than can be taken by any one pupil; and hence will arise the necessity of election of courses or subjects.

6. In providing for the selection of individual programs, prescribed studies should be reduced to the minimum, and large freedom allowed to the pupil and his parents to elect, subject to full advice, the subject courses to be taken by the pupil. Choices made by pupils may frequently be unwise, but rarely more unwise than the courses prescribed arbitrarily by the authorities.

The Use of Study-Halls

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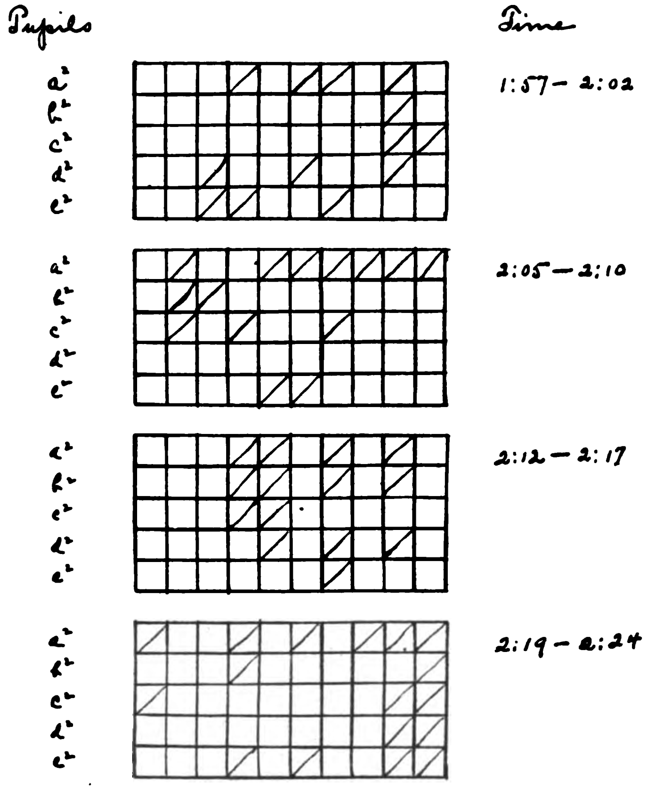
IS not the waste of school time, in a large measure, due to the fact that little thought is given to finding out what is the significance of time in school-life? If time and life were thought to be synonymous, and pupils were taught to think of time as life, would there not be more accomplished in the schools than is done today? When time is translated into community-money, particularly such time as is wasted becomes an economic factor in which the patrons of the schools will necessarily be interested.

Are we not agreed that the use pupils make of the time they spend in the school study-period is a real problem, not only from the point of view of the administrators, but also from that of the "study-hall teacher" as well as from that of the pupil himself? Do we know why the discipline of study-rooms is usually thought to be difficult? Why some pupils accomplish little? How many accomplish anything that is of value?—What definite observations of study-hall conduct have been made up to the present time, which will "carry knowledge beyond conventional opinions, no matter how sagacious" (Strayer and Thorndike, Educational Administration, Preface)?

It is the purpose of this paper to present definite records of the manner in which a number of pupils used their study-periods, between September 29, 1914, and May 7, 1915; to present the ratings of these pupils in five traits: industry, initiative, attention, attitude, improvement; to show what are the scholarship, absence, and lateness records of these pupils for their first two years in high schools; to show what connection exists between study-hall conduct and the five traits mentioned, and scholarship, absence, and lateness, and between each two of these factors; and, finally, to suggest, if possible, a way for creating more favorable conditions for study for those pupils who habitually waste a part of the time they spend in study-halls.

As already suggested, the data used in this study were collected between September 29, 1914, and May 7, 1915. Groups of five pupils were observed on ten different days, during study-periods forty-five minutes long, in large and small study-halls. Four observations were recorded during each study-hour. These observation periods were each five minutes long, a record being made every thirty seconds. In the chart below, each diagonal line in a square records an instance of inattention on the part of the pupils observed:

Study Hall 102. October 29, 1914. Time 1:45–2:30 P. M.



Pupil d^2 has no mark of inattention during the second observation period, from five minutes after two till ten minutes after two; during the first and third periods he was inattentive three times; during the fourth, twice. The frequencies of inattention for the five pupils for the one day may be tabulated as follows:

	a^2	b^2	c^2	d^2	e^2
0				1	
1		1			1
2		2	2	1	1
3			2	2	1
4	2	1			1
5					
6	1				
7	1				
8					
9					
10					
Average for the day	5.1	2.1	2.5	2.	2.5

Pupil d^2 was inattentive during eight of the forty thirty-second periods recorded, or during two (the average) out of every ten periods, or during one-fifth of his study hour. Pupil a^2 was inattentive during twenty-one of the forty periods recorded, or during five and one-tenth (the average) out of every ten periods, or during more than one-half of his study-time. The complete record for pupil d^2 for the ten days on which he was observed shows that the average number of thirty-second periods during which he was not attending to legitimate study-hall business is 3.775. In other words pupil d^2 lost 3.775 tenths, that is, nearly four-tenths, of each observation period: not quite two-fifths of his time for study was wasted.

The basis for the following study consists of the records made, during ten study-periods, of the use fifty pupils—twenty-five boys and twenty-five girls—made of their time. For this group of fifty pupils the average number of instances of inattention is found to be 2.28 out of every possible ten (see table, page 239).

A comparison between the best ten study-hall records and the worst ten is suggestive of the differences that exist between individuals and between groups. It shows that the best ten pupils wasted only .454, or less than one-half, of one period out of every ten; the worst ten pupils wasted 4.507, or a little over four and one-half, periods out of every ten. On 4.6 days out of the ten on which observations were made there was no instance of inattention recorded against the best ten pupils; on only .3 of one day was there no instance of inattention recorded against the worst ten pupils. At no time was one-half or more than one-half of the study-hour wasted by even one of the best ten pupils; on 4.5 days out of ten was one-half or more than one-half of the study-hour wasted by the worst ten. The group of the best ten pupils used 31.4 five-minute periods, out of a possible forty, profitably; the group of the worst ten pupils used only 9.4 five-minute periods profitably. The members of the first group at no time wasted completely even one out of a possible forty five-minute periods; those of the second group wasted 8.00.

Four class teachers (i. e., teachers to whom the pupils recited during either the first or the second term of the school-year, 1914–1915) were requested to rate these pupils in the following traits: industry, initiative, attention, attitude, and improvement. To each of the four teachers of every pupil was given a library card with the following scale for the ratings: 95–100, excellent; 85–95, very good; 75–85, good; 65–75, average; 60-65, unsatisfactory; below 60, poor. The median (the average of the middle two) of the four ratings was used.

In obtaining records of scholarship the work of the first two years was considered under five groups: English, language, mathematics, science, history. Each pupil had four terms of English; nearly all pupils had four terms of Latin and two of German or French, and a few had Greek; mathematics consisted of one year of algebra and one of geometry; the science was elementary biology; the history, Greek and Roman. As may be expected, a number of pupils repeated a term's work in one or more subjects. The scholarship records used in this study are based on the average of whatever work was done in the first two years in high school, in each one of the groups named. The average of the five averages constitutes the complete scholarship record. The absence and lateness records are the total number of absences and latenesses recorded during the pupils' first two years in high school.

The complete data for the fifty pupils—a–y, boys; a^1–y^1, girls—are suggestive of various interesting facts:

		No. of periods out of ten wasted in study halls	Industry	Initiative	Attention	Attitude	Improvement	Scholarship	Absence	Lateness
1	a	5.55	50	62	63	70	55	60	21	3
2	b	3.08	87	85	93	95	83	81	9	3
3	c	2.23	82	78	85	88	85	69	25	11
4	d	.31	87	91	94	94	81	84	17	7
5	e	4.63	76	65	79	82	45	61	3	11
6	f	3.41	60	65	67	70	65	61	8	6
7	g	4.10	96	90	95	97	91	89	10	0
8	h	.85	80	70	85	85	70	81	18	0
9	i	.75	93	97	90	95	80	75	6	0
10	j	1.78	89	80	93	85	95	85	8	2
11	k	.68	66	68	80	83	69	64	19	22
12	l	4.33	75	80	79	76	83	69	0	0
13	m	2.63	68	70	75	82	67	68	7	0
14	n	2.98	78	80	75	77	75	75	0	0
15	o	1.63	94	90	96	98	86	85	8	1
16	p	.40	85	73	93	95	67	74	9	5
17	q	2.38	55	55	75	67	62	67	10	4
18	r	2.24	69	63	66	75	66	54	9	0
19	s	3.75	67	66	62	66	67	61	64	8
20	t	.18	73	70	68	78	70	72	3	3
21	u	.83	80	75	85	85	80	78	8	0
22	v	1.45	80	70	72	85	75	67	9	1
23	w	3.78	63	59	67	68	63	63	2	0
24	x	1.93	65	65	65	65	70	66	3	0
25	y	.33	70	67	76	78	73	68	0	0
26	a^1	1.05	81	70	91	87	88	77	1	0
27	b^1	.73	95	87	96	97	95	95	6	0
28	c^1	2.00	64	57	70	75	65	69	44	23
29	d^1	.88	72	45	85	85	57	71	4	0
30	e^1	2.83	83	75	85	90	85	75	16	0
31	f^1	.78	94	80	93	94	81	74	18	8
32	g^1	.73	68	70	72	85	70	69	11	4
33	h^1	2.40	78	77	85	85	87	75	2	0
34	i^1	1.88	67	68	78	67	68	65	18	3
35	j^1	2.60	88	75	91	93	80	79	0	0
36	k^1	1.60	63	70	73	70	62	59	0	4
37	l^1	1.54	83	77	97	100	85	65	39	4
38	m^1	2.07	73	75	75	82	78	67	2	3
39	n^1	1.30	73	60	77	75	67	74	16	3
40	o^1	1.78	73	72	63	80	70	70	6	1
41	p^1	.25	95	95	96	95	95	91	2	0
42	q^1	3.00	70	45	75	75	80	60	56	9
43	r^1	.45	83	72	88	92	75	69	24	1
44	s^1	7.30	35	35	45	61	62	60	16	4
45	t^1	2.30	73	75	70	70	72	74	0	0
46	u^1	.78	75	65	80	83	67	71	20	1
47	v^1	.43	85	70	85	90	85	72	12	8
48	w^1	1.08	73	70	78	75	67	68	17	0
49	x^1	1.00	95	90	98	100	97	87	65	0
50	y^1	7.00	68	65	73	73	65	75	5	0
Averages		2.28	76.08	71.4	79.74	82.36	74.72	72.7	13.52	3.22

After ranking the ten pupils—five boys, d, i, p, t, y, and five girls, b¹, g¹, p¹, r¹, v¹—who have the best study-hall records (i. e., those having the least number of instances of inattention recorded against them) in the order of their merit, in the various traits measured and in scholarships, absence, and lateness, it is readily seen that pupils d and p¹ maintain their places near the head of the group consistently throughout seven measures; pupils g¹ and r¹ show little deviation in rank at the lower end of the list; the close resemblance between the traits measured points to a very close relationship or correlation between them. We may judge that pupil t, who is seldom absent, finds it necessary to use his time in study-halls well, in order to bring up his scholarship even to sixth rank. Pupil b¹ uses her study-periods badly and has not a great deal of initiative, which possibly accounts for her absence record; but she ranks first in the other five traits. May we not judge that she has native ability and uses her recitation periods well? Pupil y, who is seldom late or absent and makes fair use of his study-hours, is, possibly, lacking in those inborn characteristics which bespeak the satisfactory pupil.

Interesting data are presented by several pupils among the worst ten—five boys, a, e, g, l, v, and five girls, e¹, j¹, q¹, s¹, y¹. In the case of pupil s¹ there is identity of relative position in the measure of study-hall conduct, industry, initiative, attention, attitude, and scholarship; that this pupil is ranked third in improvement is due in large part, no doubt, to the various interpretations given this term by four different teachers. Pupil g maintains tenth rank in six measures; pupils e¹ and j¹ vary only slightly in their respective places.

Thirty-six correlations (by the Pearson coefficient method) follow, to show the relation or mutual implication between the study-hall conduct of the fifty pupils and each trait mentioned, and between every two of the other eight traits measured.

	Study-hall Conduct	Industry	Initiative	Attention	Attitude	Improvement	Scholarship	Absence	Lateness
Study-hall Conduct		.572	.341	.429	.435	.224	.486	.019	.014
Industry	.572		.830	.934	.995	.880	.868	.013	.217
Initiative	.341	.830		.664	.685	.658	.693	.193	.180
Attention	.429	.934	.664		.857	.661	.758	.082	.011
Attitude	.435	.955	.685	.857		.711	.731	.043	.012
Improvement	.224	.880	.658	.661	.711		.718	.094	.235
Scholarship	.486	.868	.693	.758	.731	.718		.119	.311
Absence	.019	.013	.193	.082	.043	.094	.119		.453
Lateness	.014	.217	.180	.011	.012	.235	.311	.453	

Industry appears to be in close correlation with initiative, attention, attitude, improvement, and scholarship; and attitude with attention, and improvement. Other traits which imply a close relation to each other are: scholarship and attention, attitude, improvement, and initiative; initiative and attention, attitude and improvement. May we not explain the less close correlations between the use of study-hall time and the six traits as due to the fact that there is in most schools no definite standard of study-hall conduct that is not covered by such terms as "not being disorderly," and "doing something"? May we not expect a closer correlation when pupils know definitely what they are to do during the study-hour, when such conventions of the "recitation" as attention, right attitude, demands for improvement in work, are carried over into the study-hall?

The purpose of the concluding paragraphs is to point out a possible reorganization of study-halls so that those pupils who do use their time wisely may not be interrupted by those who have not yet learned to do so. Is it not wise to allow those who can study independently to pursue any work they may choose to do in their study-halls?

Those pupils who seem not yet to have learned to apply themselves methodically to their work may be grouped in a second room, or number of rooms, where they will find guidance in planning the use of the study-hour, and help in carrying out their plans. Those pupils who have not the initiative or the ability to plan a study-program and carry it out should be grouped together, preferably in rooms smaller than those in which are seated the two groups already mentioned. Their studying should be done under close observation by the teacher in charge, who ought to find it profitable to consult with the subject teachers of the pupils in regard to their difficulties. In order that a pupil may not waste time, particularly at the beginnkng of a study-period, he, as well as the teacher in charge, should have a study-program which gives data as to pupil's name, grade, class, official room, hours for study, the subject to be studied in each study-period, the time for recitation in the subjects studied, and the subject teachers' names. On the back of the program-card may be given directions for study.

It is not the chief business of the teacher in charge of these various groups, (1) to see that the pupils have study-programs, (2) that they apply themselves diligently to the work outlined for the hour, and (3) that they accomplish something definite during the hour. When the teacher finds a pupil has acquired the habit of systematic study and is improving in class work, such pupil should be promoted to the second group of study-halls. And from this second group there will be promotions into the first group so rapidly as pupils are found to be able to study independently.

Teachers' Marks in Eighth A, B, and C Divisions

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THE investigation which forms the basis of this article was not undertaken to prove or disprove anything in particular. For the first time the pupils this year were classified according to their ability, into A, B, and C divisions, instead of being divided alphabetically as in the past. It was the purpose in studying the marks of the teachers to find out as much as possible about the new plan of classification.

The conditions of the school are briefly these. A central, upper grammar grade building in which there are located two sixth, two seventh, and three eighth grade classes, also a special class, and the manual training department. The teaching is semi-departmental in the two upper grades.

At present we are interested in the three eighth grade classes only. They were made up from the two seventh grades in this building and a seventh grade from another building, of the year previous. The three seventh grade teachers submitted in June the average marks of their pupils in arithmetic, grammar, geography, and history for the spring term, to the superintendent, who divided the pupils according to their general average in these four subjects. The marks ranged from 60% to 95%. Those from 85% to 95% came in the A division, those from 75% to 84% in the B division, and those below 75% in the C division. This arrangement gave us three classes about evenly divided as to size. Arranged according to the plan of the present investigation, the seventh grade averages were as follows:

The average marks of the three seventh grades for the spring term. (This does not take into account the repeaters.)

	Three Eighth Grade Divisions A	B	C
Number pupils receiving 61 to 70% inclusive			23
" " " 71 to 80% "		23	7
" " " 81 to 90% "	20	9	
" " " 91 to 100% "	9		

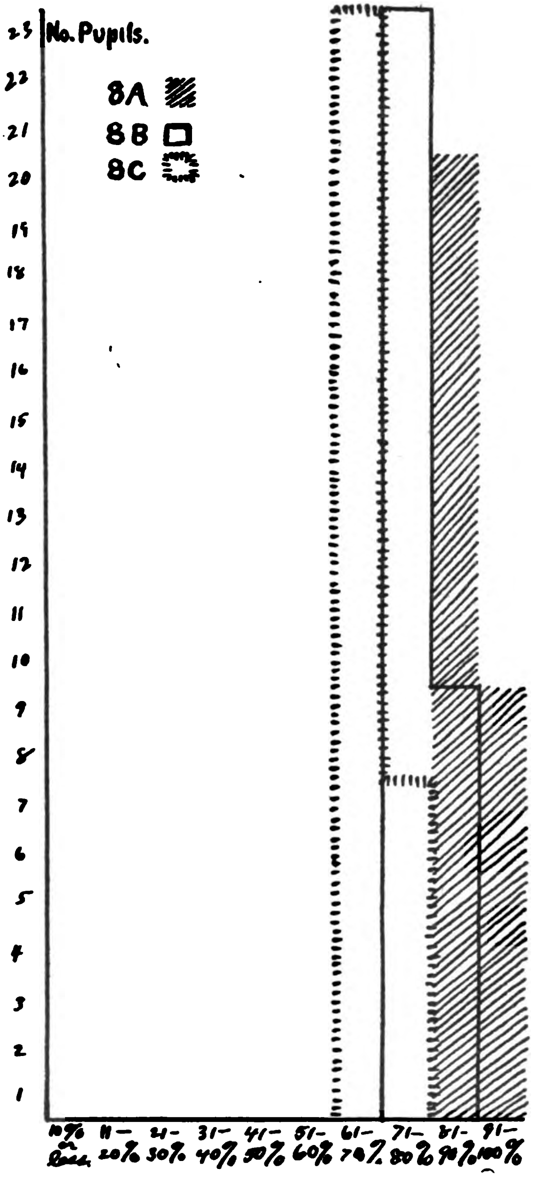
No. Pupils.
8A
8B
8C
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
10% or less
11– 20%
21– 30%
31– 40%
41– 50%
51– 60%
61– 70%
71– 80%
81– 90%
91– 100%

Fig. 1.

Figure 1 graphically shows this classifications of the three eighth grades, as determined by their average marks in the spring term of the seventh year.

During the summer, one of the seventh grade teachers was promoted to eighth grade. This is interesting because one-third of the marks under consideration in both the seventh and the eighth grades were hers.

Under the present arrangement in the eighth grade, the work is departmentalized to this extent. One teacher has all of the grammar, another has all of the arithmetic, and the third teacher has all of the history. Each teaches the geography and all of the other subjects to her own pupils only. The pupils change rooms for two subjects. The teachers remain in their own rooms for all of the work. All three of the teachers have had from twelve to twenty years of experience, and are considered strong. Number 1 teaches all of the grammar, and the A class is assigned to her room. Number 2 teaches all of the arithmetic, and the B class is assigned to her room. Number 3 teaches all of the history, and the C class is asigned to her room. In some respects the work in C division is a little easier, but in history and geography it is the same. With all these conditions clearly in mind, the following facts are decidedly interesting.

THE AVERAGE MARKS FOR THE FIRST TWO MONTHS OF THE FALL TERM

Grammar	Divisions		
	A	B	C
Number pupils receiving 10% or less			
" " " 11 to 20% inclusive			
" " " 21 to 30% "			
" " " 31 to 40% "			
" " " 41 to 50% "		1	
" " " 51 to 60% "	4	7	7
" " " 61 to 70% "	8	11	15
" " " 71 to 80% "	4	9	5
" " " 81 to 90% "	16	3	
" " " 91 to 100% "	3		

Arithmetic	A	B	C
Number pupils receiving 10% or less			
" " " 11 to 20% inclusive			
" " " 21 to 30% "			1
" " " 31 to 40% "		2	1
" " " 41 to 50% "		2	7
" " " 51 to 60% "	5	2	4
" " " 61 to 70% "	14	6	9
" " " 71 to 80% "	7	11	4
" " " 81 to 90% "	7	6	2
" " " 91 to 100% "	1	2	

THE AVERAGE MARKS FOR THE FIRST TWO MONTHS OF THE FALL TERM

History	Divisions		
	A	B	C
Number pupils receiving 10% or less			
" " " 11 to 20% inclusive			
" " " 21 to 30% "			
" " " 31 to 40% "		1	
" " " 41 to 50% "			
" " " 51 to 60% "			1
" " " 61 to 70% "		5	5
" " " 71 to 80% "	2	7	6
" " " 81 to 90% "	13	11	10
" " " 91 to 100% "	19	7	4

Geography	A	B	C
Number pupils receiving 10% or less			
" " " 11 to 20% inclusive			
" " " 21 to 30% "			
" " " 31 to 40% "			
" " " 41 to 50% "			1
" " " 51 to 60% "		1	2
" " " 61 to 70% "	9	4	6
" " " 71 to 80% "	18	16	7
" " " 81 to 90% "	6	7	8
" " " 91 to 100% "	1	3	4

In order to bring out the facts more clearly several graphs of these results are submitted. Fig. 2 shows the marks in grammar for the three divisions. The code is the same as explained in Fig. 1. It will be noticed that A division is decidedly the best in this subject. The A division sit in the room of teacher No. 1, who teaches all of the grammar; except when they go to the other rooms for arithmetic and history.

Fig. 3 shows the marks in arithmetic for the three classes. In this subject the B division are the leaders. They sit in the room of teacher No. 2, who teaches all of the arithmetic, except when they go to the other rooms for grammar and history.

Fig. 4 is a graph of the marks in history for the three classes. The A division are way ahead in history, but the C and B divisions are about equal. The C division sit in the room of teacher No. 3, who teaches all of the history, except when they go to other rooms for grammar and arithmetic.

Fig. 5 is a graph of the marks in geography. This subject is not departmentalized. The C division is the best in this subject. The other two classes are about equal. Teacher No. 3 is the one recently promoted from seventh grade. She is probably a somewhat higher marker than the other two.

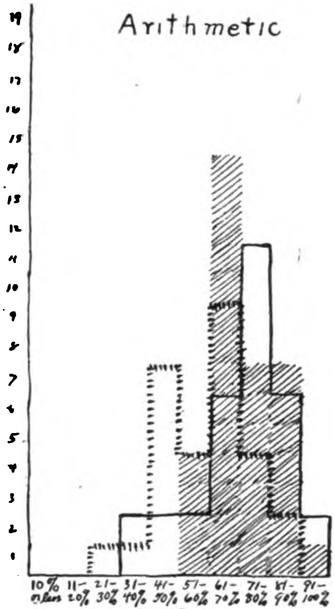

FIG. 3.

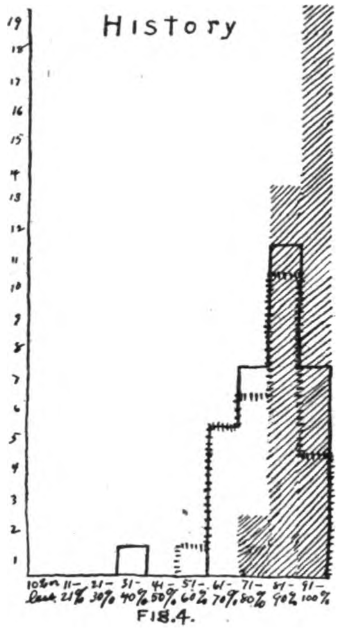

FIG. 4.

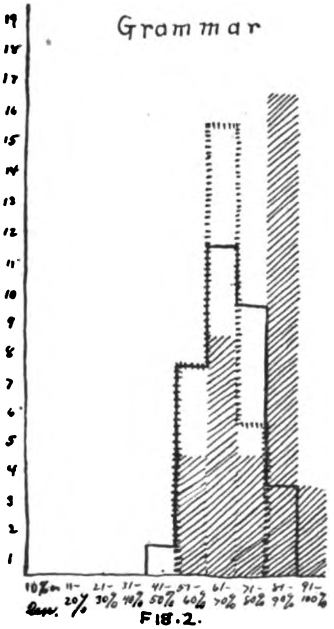

FIG. 2.

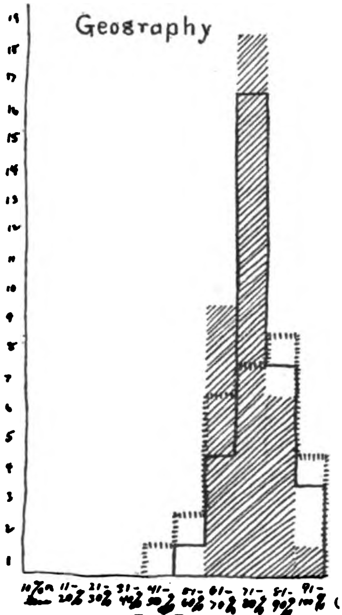

FIG. 5.

The remaining figures compare the marks in arithmetic, grammar, and history, in the A, B, and C divisions respectively.

In Figure 6, the marks of eight A are compared. They are rated much higher in grammar than in arithmetic. The history marks would indicate that in arithmetic the A division were under-rated.

Fig. 7 shows a comparison of the marks of the B division. They stand much higher in arithmetic than in grammar. In this case, the history marks would indicate that the B division were under-rated in grammar.

Fig. 8 shows a comparison of the marks in the C division. These pupils are the best in history, but the marks in the other two subjects would indicate that they were over-rated in history.

During the year these three divisions will be checked up in various ways. The Courtis tests in arithmetic and Thorndike's reading tests will be used. At present only one test has been given by the superintendent. The results are interesting in comparison with the teachers' marks, and while the results of this one test are not conclusive by any means, yet as far as can be judged, they are a fair estimate of the real difference in ability of the three divisions.

"A School for Poor Boys"

The test used was for English Composition, and consisted of the reproduction of the above story, used by Rice, in his famous tests, and more recently by Supt. Bliss. The story was read to the pupils by the superintendent in every case, and all on the same day. The papers were read carefully and arranged into seven groups, according to their general excellence. The results were as follows:

	7	6	5	4	3	2	1
	a	b	c	d	e	f	g
8A	1	5	4	9	8	5	
8B		1	3	9	12	4	
8C				4	5	10	6

A value of 7 has been arbitrarily assigned to a, the highest group, and 6 to group b, and so on. Multiplying the number of papers in each group by the value assigned to that particular group, and dividing the sum of these products for each division,

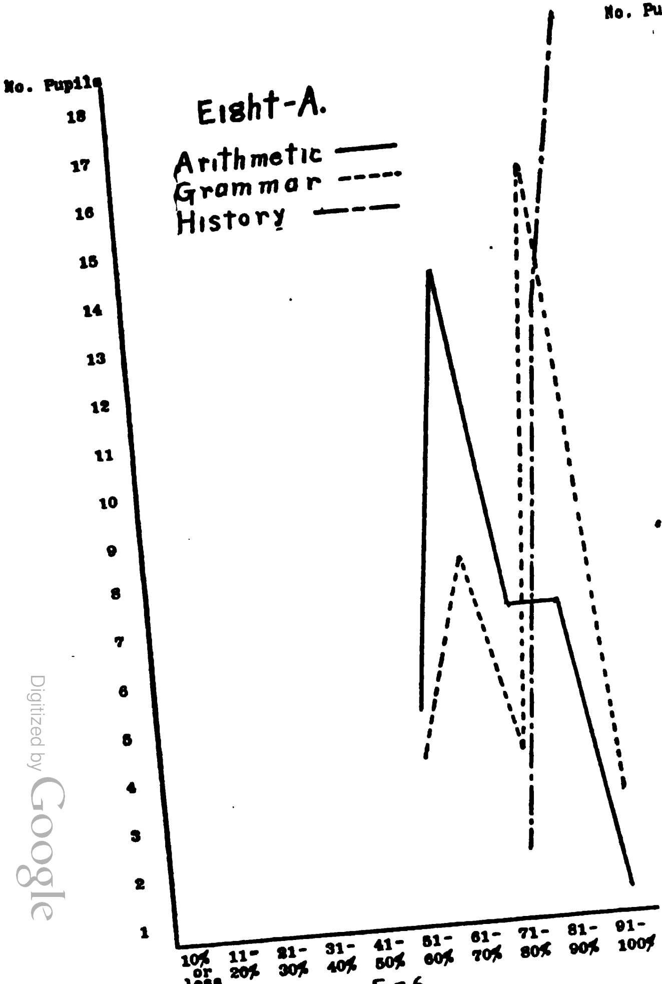

Fig.6.

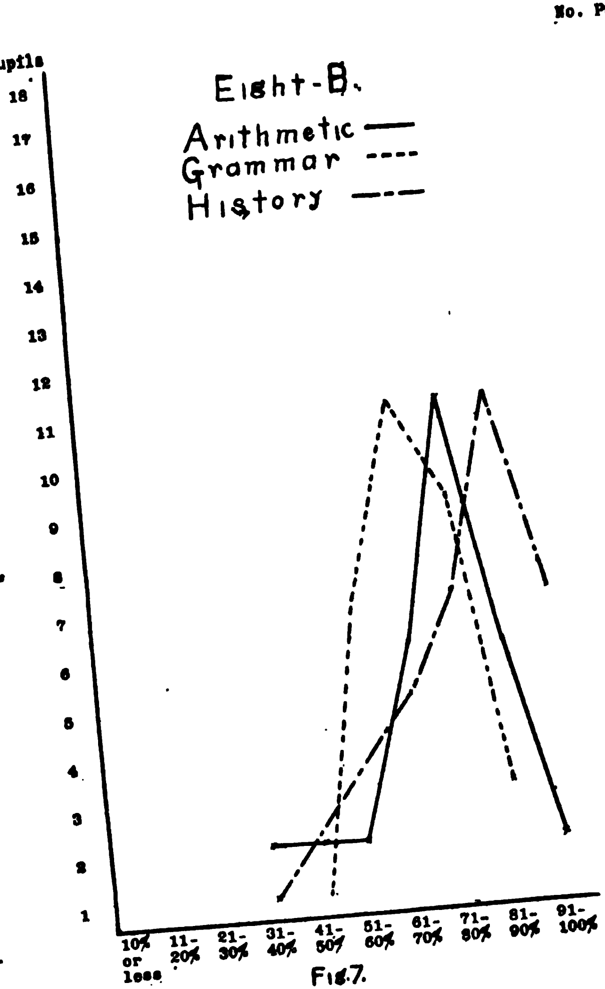

Fig.7.

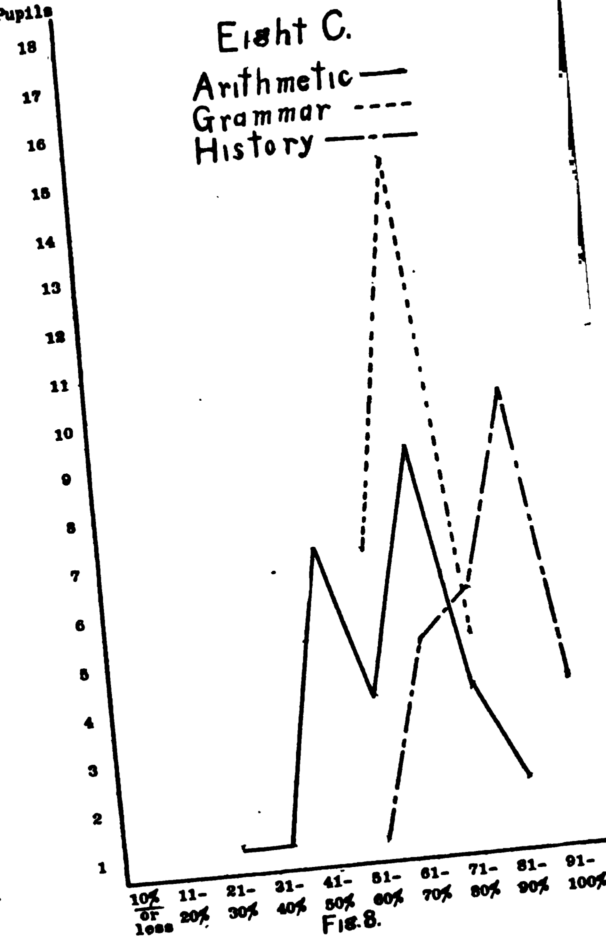

Fig.8.

by the number of papers in each division, gave the following rating of the three divisions.

Eight A = 4.
Eight B = 3.5
Eight C = 2.3

The conclusion to be drawn from all of these marks is that all three of these honest, conscientious and capable teachers are rating the pupils who sit in their own rooms most of the time, and for whom they feel the most responsibility, altogether too high. This is probably a common tendency in many school systems. The first step is to prove it, which has clearly been done in the case of these three teachers. The second step is to overcome as much as possible this natural tendency to rate too high those pupils whom the teacher sees the most and has the most work with.

DISCUSSIONS AND COMMUNICATIONS

DISTRIBUTION OF GRADES IN AN ELEMENTARY ZOOLOGY COURSE IN THE UNIVERSITY OF ILLINOIS

H. J. VanCleave
University of Illinois

THE distribution of students' grades and problems arising from differences in standards among teachers have been discussed from many view points. In most cases which have come to the attention of the writer the basis for these discussions has been the wide range of variability in grades given a single piece of work by different teachers. All these records indicate the difficulties involved in maintaining uniformity in the grading system of a school or any department of a school. Starch[1] (1913:630) has designated four major factors which in his opinion account for this situation: "(1) Differences among the standards of different schools, (2) Differences among the standards of different teachers, (3) Differences in the relative values placed by different teachers upon various elements in a paper, and (4) Differences due to the pure inability to distinguish between closely allied degrees of merit." These and more than these difficulties arise in the teaching of large elementary classes in the laboratory sciences in a university. In such a class a given student is frequently working under two or more instructors each of whom must at the end of the course present data from different phases of the work to be used in determining the individual's final grade in the course. This final grade under these circumstances is a composite judgment each element of which involves all four of the factors just quoted from Starch.

It has been the privilege of the writer for the past few years to make an analysis of the grades in the elementary course in zoology given at the University of Illinois. As in most such University courses a portion of the instruction is by graduate assistants and much of the grading is by these same persons. From year to year this part of the instructional force undergoes considerable change bringing in new men with differences in training and experience in the field of zoology and from various institutions with their several standards of grading. The writer has been especially interested in investigating the influence of these changes upon the standards of grading in the elementary course in zoology as well as upon the distribution of the grades in the various parts of the course. It has been a conscious policy of the faculty of the Department to attempt an application of the same standard to every division of this course. To some considerable extent this has been accomplished through frequent comparisons of grades. When an individual is found grading higher or lower than the standard set for the course his attention is called to the fact and an attempt is made to eliminate the difference.

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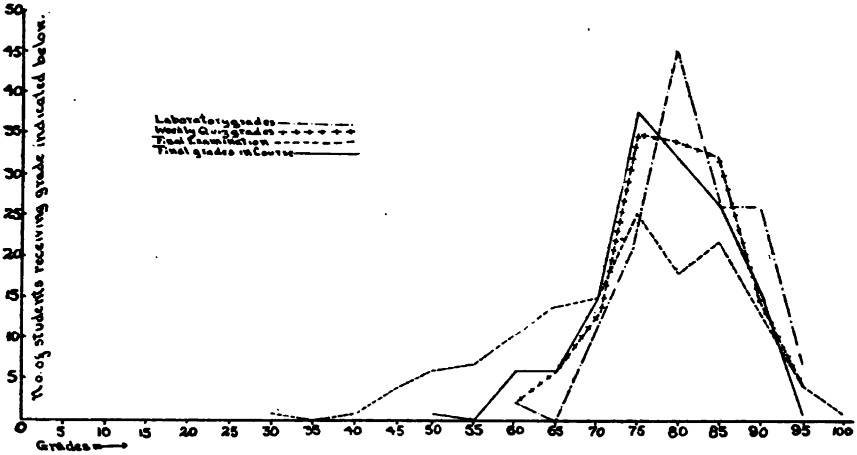
[1] Starch, D. 1913. Reliability and Distribution of Grades. Science N. S. 38; pp. 630–636.

Before discussing the results obtained it is necessary to outline briefly the content of the course under consideration. The class meets as a body for three one hour lectures per week upon the general principles and problems of zoology. For one hour per week they assemble in groups of fifteen to twenty-five each for oral and written quizzing upon the content of the lectures and the text assignments. This work is conducted by graduate assistants. For six hours per week the students work upon regular laboratory exercises in unit sections of twenty-four each with an average of one graduate assistant to sixteen students and a regular faculty member to each forty-eight students. Notes and drawings made in the laboratory are corrected and graded by the assistants. At the end of the semester a written final examination is given. In this examination an attempt is made to cover as many distinct elements of the course as is possible, and the students are given to understand that all questions are of equal value. The papers are numbered but do not bear the names of the students so that an impartial reading of each answer is assured. To insure uniformity in grading and to distribute personal differences in standards equally a given question is graded through the entire set of papers by the same person. The final recorded for each student is obtained by taking an average of: (a) the weekly quiz grade, (b) the grade upon the laboratory work, and (c) the grade upon the final examination. The accompanying curves indicate the extent of the variability in distribution of the grades given the past semester. The distribution here shown is about typical for any one of the past seven semesters. The last three times in which the course has been given the average final grade of the course has varied less than one per cent.

In conclusion it has been found possible to estabish a standard of grading in a university science course and to maintain that standard from year to year despite the frequent changes in the personnel of the teaching force. Furthermore it has been possible to attain a fair degree of conformity in grading of work done by students in different parts of the course under different instructors.



Distribution of Grades of 140 Students in an Elementary Course in Zoology. Grades Grouped in Five Point Intervals, for Example, Grades 73 to 77 are Plotted on the 75 Line

A NOTABLE POLITICAL SCIENCE SERIES*

Jesse H. Newlon

Decatur, Illinois

The *Yale Lectures on the Responsibilities of Citizenship* are truly a series of notable lectures, a series that should be found in duplicate in every high school in America. Properly used, these lectures will contribute much to the civics teaching in our schools.

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Conditions of Progress in Democratic Government. By Hon. Charles Evans Hughes, now Associate Justice of the Supreme Court of the United States. 123 pages.

America in the Making. By Rev. Lyman Abbott, D.D., LL.D., Editor of "The Outlook." 234 pages.

The Relations of Education to Citizenship. By Hon. Simeon E. Baldwin. 173 pages.

The Power of Ideals in American History. By Ephraim Doughlas Adams, Ph.D., Professor of History, Leland Stanford, Jr., University. 159 pages.

Muncipal Citizenship. By George McAneny, President of the Board of Aldermen of the City of New York. (In preparation.)

The Liberty of Citizenship. By Samuel Walker McCall, LL.D. 128 pages.

Every one of the eleven volumes is by a man who has achieved distinction by notable service in national or international public life, or as an authority in the field of political science and history. The keenest minds in our public life have been summed to give these lectures. Filled with an intense and high patriotism, quickened by years of sacrifice in civic service, these men have lucidly discussed here the most vital and fundamental problems in our body politic. These volumes are not merely informative, they inspire with a new sense of civic responsibility.

We have here different men discussing the same topic from more or less different points of view but always in a masterly way. For example, Elihu Root, Charles Evans Hughes, and James Bryce deal with the functions of political parties in a democracy.

Our teaching of civics has been altogether too formal, has treated too much of the mechanical details of governmental machinery, has consisted altogether too much in memorizing parts of the constitutions of state and nation, and the names of public officials. It has put the emphasis on the form rather than on the spirit of our government. The student is apt to get the impressions that all the great problems of government have been solved, that the great sacrifices for democracy have all been made, that the machinery has been set in motion and will continue to run if he merely votes.

This condition is due partly to the woeful formalism of our civics texts; these texts are apt to be mere compendiums of information about our government. It is partly due to the fact that our teachers have not yet fully caught the spirit of the new social science and broken with the formalism of the texts. It is largely due to a paucity of material suitable for supplementing our texts in civics. There has been little material available aside from college texts in political science which have been too difficult for the high school student.

Practically every chapter in these books is within the comprehension of the high school student. The boy or girl who has read the three discussions on political parties will have a far keener appreciation of the relations of political parties to a democracy than could possibly be gleaned from any text book on civil government. The student will find that the lectures do not agree on all problems. The result will be thinking on the part of the student, a phenomenon that has been all too rare in our civics classes.

Incidentally, every thinking citizen should read these lectures. No man will agree with all the political philosophy of all the lectures but all will be stimulated by the high note of patriotism that runs through the entire series and by the brilliant and critical analyses of contemporary civic problems.

"ENROLLMENT IN THE HIGH SCHOOL"

F. R. Park
Principal, Cuba, N. Y.

EDITOR EDUCATIONAL ADMINISTRATION AND SUPERVISION:

Sir: I was greatly interested in the article by Mr. G. J. Koons on "Enrollment in the High School" appearing in EDUCATIONAL ADMINISTRATION AND SUPERVISION for January, 1916. It gave me some very valuable suggestions in regard to the functioning of the parent in the directing of the students course in High School.

I believe much remains to be done in most communities to enlist the co-operation of parents generally in the matter of counseling pupils and supervising their home work. In this connection permit me to submit a plan of my own that is proving somewhat productive of results.

After the registration has been secured at the beginning of the term and each pupil's classes are suitably arranged by consultation with the parent and the principal, I require a careful plan of classes and study work to be prepared on a filing card a copy of which I am inclosing. The class schedule is first written in black, and a carefully thought out study program, designed in the opinion of the pupil to take care of the outside work, is planned and filled in in red. These cards are not finally submitted until after the first week of the term so that it is the product of experience and the advice of the teachers in the several departments. During this first week the teachers are instructed to diagnose as well as can be done the ability of the different students so as to be able to advise as to the time allotment needed by each pupil in each subject outside the classroom.

By such a combined effort on the part of the teachers and pupils during the first week a tentative program of study is made which is satisfactory in the majority of cases. These are then submitted to the principal and carefully examined. Wherever the principal's knowledge of the pupil indicates that an inadequate time allotment has been made, that pupil is advised to change the study program accordingly.

At the bottom of the card is a place for the home work schedule. I have commonly sent a copy of this home work schedule to the parents of such pupils as experience has shown to need encouragement and direction at home. I believe that hereafter, following the suggestion of Mr. Koons, I shall require the signature of the parent to this study and class program. Such a procedure ought to be an effective means of securing much necessary home direction in study.

The file containing these cards is available each day for reference by the teachers in charge of the study hall and is used by them to take the roll and for supervising the study period. A valuable use of these cards is made also by the teachers in diagnosing causes of failure in the classroom and remedial recommendations are accordingly proferred to the principal.

I find that the above plan is very effective in developing habits of systematic study. One reason why such a plan is very necessary in my school is that we have the six-six plan of organization, i. e., six years of elementary graded work and six years of departmental and secondary work. Pupils of the seventh, eighth and ninth years cannot be trusted to always make ends meet in allotting their study time.

Name, Edith Ackerly Date, Jan. 28. Seat, Row E, No. 3.

(An eighth grade program—second half year.)

	Monday	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
9:00– 9:20	Rhetoricals	Penmanship	Rhetoricals	Penmanship	Chapel
9:20–10:00	English	English	English	English	Domestic
10:00–10:40	*English*	*English*	*English*	*English*	Science
10:40–11:20	Algebra	Algebra	Algebra	Algebra	Algebra
11:20–12:00	*Algebra*	*Algebra*	*Algebra*	*Algebra*	*Algebra*
1:20– 1:40	*Physiology*	Physiology Nature Study	*Physiology*	Pysiology Nature Study	History
1:40– 2:20	*History*	*History*	*History*	*History*	*History*
2:20– 3:00	History	History	History	History	History
3:00– 3:40	Drawing	Music	Drawing	Music	Music
Home Work	*Algebra*	*Algebra*	*Algebra*	*Algebra*	*Algebra*

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*The subjects in italics are written in red on the card and designate study periods.

EDITOR EDUCATIONAL ADMINISTRATION AND SUPERVISION.

Sir: Prin. Park's suggestions in the above letter are well worthy of careful consideration. Proper enrollment only secures through the co-operation of those most interested a right start on the year's work. This beginning must be followed up by measures adapted to secure right habits of study on the part of the pupil. Principal Park's suggested plan it seems would follow up and supplement in a commendable way the enrollment plan suggested in the January number. It might be well to have the pupil make three copies of the form he suggests,—one to be placed on file in the study hall, one for the principal's office and one for the pupil's individual use. It probably would be sufficient to have the parent sign the one for the principal's office.

C. J. KOONS.

BOOK REVIEWS

C. H. Judd. *Psychology of High School Subjects.* New York: Ginn and Co., 1915. Pp. ix, 515.

The time is now ripe, the author is convinced, for the application of psychology to the problems of the high school teacher. But the sort of psychology which will be of most value to him is not a general treatment of the traits of the adolescent mind. The psychologist should rather, if he is to be of service, concern himself with the mental processes which are aroused in pupils by the various subjects of the curriculum. While at present such a study must of course result in the statement of problems far oftener than in their solution, a working method may at least be devised.

Such a method will involve at least the following: a consideration of the subject itself and of its treatment in current texts, with an eye to the discovery of the types of mental activity which it is designed to arouse in the learner; the study of systematic psychology in order to determine how it can throw light on the problem of the teacher; the psychological evaluation of suggestions made by various writers on the teaching of special subjects; and, finally, systematic observation and experiment in the classroom.

The bulk of the book is concerned with the application of the suggested method to geometry, algebra, English, foreign languages, manual training, industrial courses, science, the fine arts, and history. Then follow chapters on "Generalized Experience," "Teaching Students to Study," and "General Problems of Secondary Education."

The author is at his best in the chapters which deal with the teaching of English; the criticisms which he offers are fundamental, and his constructive suggestions deserve both commendation and trial. One wishes that these chapters could come into the hands, not only of every high school teacher of English, but of everyone who has to do with the formulation of college entrance requirements in that field. Other outstanding features of the book are the chapters dealing with foreign languages, the discussion of the reorganization of mathematics, the emphasis on the problem method of teaching science, and the psychological analysis of the manual training problem. We know so little of the psychology of industrial and fine arts courses that one could probably expect little more than a series of more or less general suggestions. The chapters on the teaching of geometry and algebra, though they contain valuable suggestions seem to the reviewer among the least satisfactory in the book. Chapter three, on "The Psychology of Space" would seem to be of questionable value to the high school teacher of geometry, and much of the material of the two following chapters ("The Psychological Analysis of Geometry" and "The Psychology of Number and Abstraction") seems either somewhat obvious or so general in its nature that application to the specific problems of the teacher of mathematics would be difficult. The treatment of the teaching of history is good, but partial and all too brief.

Of the last three chapters, that on "Generalized Experience" is perhaps of most interest. It is a distinct disappointment, after the statement that the discussion of the transfer of training "bears all the marks of an intense partisan controversy," (p. 393) to find that argument is substituted throughout for the appeal to fact. The only experiment quoted at length is one mentioned by Thorndike in an early work, deals really with correlation and not with the transfer of training, and is regarded by Thorndike as of so little importance that it is not even mentioned in his recent inclusive survey of the field. The only other reference to definite experimental data is a brief mention of Bagley, and the comment made is confusing.

Professor Judd's method is admirably adapted to do what he asks for it, to "raise questions and formulate suggestions." He recognizes frankly that the teacher himself must, through observation and experiment, do most of the work of definite testing out of suggestion and problem. It is probably unavoidable that, in the present state of our knowledge the higher mental processes, the questions raised and suggestions given should be now and then somewhat lacking in definiteness, that occasionally the attempts to make general psychology "function" seem somewhat forced, and that logical deductions as to the sort of mental process which ought to occur under given conditions replace all too frequently definite statements of fact as to those which actually do occur. It is interesting to note in passing that the author seems to have found practically nothing of value for his purposes in the mass of recent experimental work on the thought processes.

There is possibly throughout the book a somewhat too confident assurance that the teacher will be able to put psychological principles to work, once they are stated. It may be questioned whether the average high school teacher, unaccustomed to the handling of psychological conceptions, will be able to make his own applications to classroom problems to quite the extent that is assumed. He will likely find that much of the treatment is open to the same criticism which the author has made of the psychology of adolescence and of individual differences; that it is "only of general value to the individual teacher, in his daily task of training students."

But if the book serves to stimulate detailed study of high school problems from the psychological view-point, it will have rendered the great service to be expected from such a pioneer work. This, in the hands of teachers of some training and a general knowledge of psychology, it is well adapted to do. Professor Judd has made a distinct contribution to the study of a difficult field, and future workers must reckon with what he has done.

W. H. Chase.

University of North Carolina.

Frank P. Graves. *A Student's History of Education.* New York: The Macmillan Co., 1915. 453 pp.

The above work is something more than a mere abridgement of the author's larger *History of Education* in three volumes. It represents a praiseworthy attempt not merely to write a text-book for those who can devote only a relatively short period to the subject but to take a step in advance by restricting the contents more precisely to that which will be of greatest practical value to the teacher. To this end the treatment of educational institutions and practices is expanded somewhat at the expense of the treatment of educational theory. As to the advisability of such a change of emphasis opinions will differ. Some will regret to trace in it some concession to the dominant tendency to overestimate in educational results the tangible, the definitely measurable.

It is a function of a course in the history of education to aid the student to a correct understanding of the educational institutions and practices of the present through acquainting him with their history, but it is also its function to give the student breadth of view, to equip him for effective work as an original thinker by familiarizing him with the best thought of the greatest minds that have dealt with educational problems. It is perhaps unnecessary to state that many of our ablest educational writers still assume in their readers a knowledge of the theories set forth in the educational classics. Moreover, in these days when we are so likely to become pre-occupied with the mere externals of education it is of especial importance that the professional training of the teacher should enable him to find inspiration in the noble conceptions of the aims, the ideals and the nature of education which characterize the work of such men as Plato, Aristotle, Pestalozzi and Froebel. It would be of especial benefit to him to catch something of the ethical enthusiasm also of Quintilian, Montaigne and Herbart.

Hence it may be doubted whether even such important topics as the development of state systems of education in the United States should be allowed to encroach seriously on the space hitherto assigned to the classical educational theorists. Room for the more exhaustive treatment of American education in particular and of modern educational movements in general might perhaps be more advantageously secured by the further restriction of the space allotted to (in some instances, by the elimination of) such topics as,—the so-called catechetical and catechumenal schools, the influence of christianity, primitive education, oriental education, monastic education.

The style is well suited to the purposes of a brief text. Again and again one's attention is arrested by sentences which are models of clear, concise and comprehensive statement.

A most valuable feature of the work to the American student is the prominence given to the development of educational institutions and practice in America. In addition to the frequent references in those chapters treating of modern educational movements originating in Europe, three chapters are devoted exclusively to American education. Not only do these contain much that is new in general histories of education but the skillful organization of the complex material and the freshness of its treatment make these chapters especially interesting.

The cuts, many of which will be new to most readers, and the introductory summaries are other helpful features of the work.

Even those who differ from the author as to the amount of space to be allotted to the various topics will recognize this Student's History of Education as one of the most valuable for those who need a brief and impressive treatment of the subject.

L. F. ANDERSON.

Ohio State University.

Calvin N. Kendall and George A. Mirick. *How to Teach the Fundamental Subjects.* Boston: Houghton, Mifflin Company, 1915. Pp. ix, 329. $1.25.

This is one of a series of the Riverside text books in education edited by Ellwood P. Cubberley. The striking value of this volume is that it will serve to give its younger readers a point of view that needs to be kept, for while we may welcome every new subject that has gained admission into our courses of study, and while we do well to enlarge the scope of our administrative efforts, making special provision for the retarded, the defective, the foreigner, the adult who left school prematurely, and still others to whom the schools of a generation ago did not minister, young teachers are in some danger of losing their sense of proportion in the midst of all these desirable innovations. There are some subjects that are fundamental, and others, accessory only. The noise that has been necessary to secure for the latter subjects a deserved hearing in the ears of older teachers may easily be mistaken by beginners to mean that the traditional subjects about which so much less is said and written of late have outlived their usefulness. Hence the need of just such a book as this.

Chapter I is a brief exposition of the authors' point of view. The five educational implications herein stated are wholly practical and sane, derived from the two-fold applications of psychology and sociology to the work of the school. As the authors rightly state, they are the guiding principle in determining *what* to teach and *how* to teach in any school, and their application to the teaching of the fundamental subjects is illustrated and explained in helpful detail in the other four chapters comprising the body of the text.

Chapter II deals with the teaching of English, which is made to include Reading, Common Speech, Composition, Grammar, Spelling and Penmanship. The estimated importance and difficulty of the subject may be inferred from the space given to its treatment,—almost exactly half of the book. Of these six sub-topics Reading gets fifty of the one hundred fifty-six pages with helpful suggestions as to the characteristics of good instruction in the subject, the value of tests and the relative place of oral, silent and supplementary reading.

Chapter III, sixty pages, is devoted to Mathematics. It contains fruitful suggestions as to the value of standards and tests, inductive teaching, and the relations of Geometry and Algebra to Arithmetic. To many teachers, the tentative outline of a course of study for elementary grades with which it closes will be its most helpful contribution.

Chapter IV, sixty-five pages, treats Geography, History and Civics. It is a bit unique in its treatment of the mutual relations of these topics, which, it must be confessed, are not infrequently given an absolute divorce from each other in class-room teaching.

Chapter V, thirty pages, discusses Hygiene, not Anatomy and Physiology, in its relation to *conduct* as well as knowledge.

Each chapter is followed by a short list of collateral readings for further study of the topic under discussion, and these in turn are brought together in a three-page bibliography, alphabetically listed by authors just before the index with which the book closes.

Any teacher who opens this volume expecting to find in it something new in psychology, method or pedagogical advice will be disappointed, for abundant writings can be found in which a similar pedagogy and the same philosophy are given expression. But nowhere else have we seen between the covers of a single book so much that may serve to instruct the teacher who is honestly endeavoring to determine for herself just what is fundamental in educational principles, content or methods of teaching. If all of the cream in the book were whipped up into a froth as thin as that of many of the books written for teachers today, three volumes of equal size would not contain it all.

J. O. ENGLEMAN.

Supt. of Schools, Decatur, Illinois.

GEORGE E. MEYERS. *Problems of Vocational Guidance in Germany, with Special Reference to Applications of German Methods to American Schools.* Washington: U. S. Bureau of Education Bulletin, 1915. Number 33.

Mr. Meyers' intimate knowledge of German vocational educational gained during a year of study there, with special reference to the application of German methods to American schools, enables him to evaluate these schools both in general terms and in terms of their possible application to America. As the systems vary somewhat for different states and even for different cities in the same state, it was deemed best to take one city as the basis for this study. Berlin was the city chosen, not only because of its importance as the principal city of the principal state, but also because it was considered more nearly typical than any of the other cities.

While the Prussian law authorizing the establishment of continuation schools for commercial, industrial, and unskilled workers was passed in 1891, the Berlin ordinance providing for such schools for boys and making them compulsory was not passed until 1905. A similar ordinance providing for girls was passed in 1913.

The commercial and industrial continuation schools for boys are characterized as clear and definite in their aim and efficient in administration, especially the former. They enlist the co-operation of the employers and the schools, the schools endeavoring to fit their hours as nearly as possible to the convenience of the employer of their pupils. The employers are not only bound by law to allow their employees the necessary time to attend the schools, but they are held responsible for such attendance.

The boys are required to attend school for 4 hours each week for each year from the age of 14 to 18. The girls are required to attend continuation schools within the same age limits. That the schools concede too much to the wishes of the employers of their pupils is shown by the fact that two-thirds of all the classes for the unskilled meet after five o'clock in the afternoon.

The schools for the unskilled give information which is calculated to make of the pupils more independent and responsible citizens, but they naturally suffer from the indefiniteness, or possibly the great variety of their aims. Then, the pupils with whom they have to work include the failures and the unmanageables from all other kinds of schools. The parents and the employers do not see any definite aim in the work, and hence do not give these schools their moral support.

The figures obtainable for the girls' continuation schools tend to show that the enrollment, when they are in full operation on the same basis as the boys schools now are, will be approximately one-half the enrollment of the latter. In great part responsible for this difference is the fact that the compulsory law for girls, including as it does, only those girls between the ages of 14 and 18 who are employed in industrial or commercial pursuits, fails to reach that large class of girls who are engaged in the ordinary household duties of the home. In spite of this fact, the figures show that with the new law in operation, as it is to be this year, the number of girls enrolled will practically double the number before enrolled in private vocational schools.

For the training of continuation school teachers, a system is in use which allows for practical experience on the part of elementary teachers who go into the work and theoretical, and literary training for those people who have engaged in the practical side of the work and who wish to go into teaching as a profession.

The continuation schools of all sorts are under the management of the city deputation for trade and continuation schools. This represents the system throughout Germany, with a few exceptions, notably Munich.

That the system, as operated, is efficient in attaining the ends for which it strives is indisputable. It takes the carpenter and the tin smith, and it makes of them a more efficient carpenter and tin smith, respectively. On the other hand it does not open up to either of them a chance at a more desirable vocation. It allows little, or no, room for vocational guidance. A pupil is admitted to the industrial or the commercial schools only when he has served an apprenticeship in these lines, respectively. A boy who leaves the elementary school and goes into unskilled work, as the great majority of them do, has practically no chance to get commercial or industrial training. He must go at once into the school for the unskilled workers, and once there the chances of his getting training that will admit him to any skilled occupation or professional life are extremely remote.

Another very pernicious effect of the dual system of control as the author sees it, is the narrowing of the elementary schools. These schools now apparently feel that the vocational schools have removed from them all responsibility for preparing and guiding pupils toward a vocation. Not only is this general feeling evident, but the vocational schools, by means of better salaries, draw to themselves the best of the elementary teachers, leaving the elementary school teaching force decidedly lacking in real ability as well as in motive and enthusiasm.

Although the author duly appreciates the worth of the German vocational schools, as making more efficient workers, and thus fulfilling the principal aim of the German, and especially the Prussian, social order; he sees in the general system, and in the form of dual control which is so largely responsible for its results, an encouragement to social caste and a repression of individual talent which would be intolerable to the people of America.

JOSEPH HENRY JOHNSTON.

University of Illinois.

W. A. COOK and M. V. O'SHEA. *The Child and His Spelling.* Indianapolis: The Bobbs-Merrill Company, publishers. Pp. 281. $1.00.

The present book is an example of the intensive, analytic type of study which has been too rare among the investigations of abilities in elementary school subjects and in the construction of tests.

Classes of freshmen and sophomores in college and classes in high school have been examined in regard to their spelling ability, and the errors have been classified with respect to the rules violated, or the peculiar basis of the mistakes where no rules covering it existed. The influence of rules upon the spelling of the students tested seems to have been practicably negligible, due in part to a misapplication of the rules and in part to the fact that rules had been withheld from them until they had formed wrong habits of study. Many mistakes in spelling are simply lapses from ordinarily correct spelling and are not to be taken too seriously. The bona fide mistakes are found to be usually due to mispronunciation on the part of the teacher, drawing of false phonetic analogies from other words by the pupil, obscure vowels, and double or silent letters. Their three lists of words have been selected on the basis of their frequency, from a great mass and variety of correspondence. The first list includes the most frequently occurring, and hence the most important (272 words); the second, the next 542 in frequency and importance; and the third, the next 344 according to the same standard.

The authors are not so optimistic regarding transfer as is Wallin.* Situations in which spelling is of practical use are so much more complicated than drill situations, and the child has become so habituated to column methods of spelling, they think, that one cannot hope for transfer of spelling proficiency undiminished—certainly not for a long time.

The authors have approached their problem in the right spirit. Their study contains many valuable points, and suggest many other interesting studies which could be carried out in greater detail.

JOSEPH HENRY JOHNSTON.

University of Illinois.

FRITZ-KONRAD KRUEGER. *Government and Politics of the German Empire.* Yonkers-on-Hudson: World Book Company, 1915. Pp. 340.

In this, the first of a series of Handbooks of Modern Governments which the World Book Company states it purposes issuing, a high standard of excellence, both in content and organization and in mechanical execution, is set. The present volume is written by a man who, it is clearly apparent, knows the German nation and its governmental organization and spirit in a thoroughly masterful way. Although the author states in his preface that "his book has purely an educational purpose," and "hopes that it will help serious and fair minded people in forming their opinion of German government and politics," and although the editor in his introduction states that "without attempting in any sense to be a defense of either the German government or its politics it (the book) is a conservative and restrained judgment of German achievement and expectations," nevertheless it is perfectly evident through most of the pages of the work that the author is an earnest, not to say ardent, admirer of the German government and its modes of administration. The reviewer in no wise, however, wishes to give the impression that the work is biased or over-drawn. Quite the opposite. As the editors say, it is a "judicious and patriotic expression" of a man who "is in general in sympathy with the principles of the National Liberal party of Germany."

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* See note on Wallin's study in this issue.

The work is divided into nineteen chapters, together with *Appendix, Critical Bibliography* covering thirty-four pages, an *Outline of the Government of the States of the Empire,* and a well prepared *Index.*

The following chapter headings will give an idea of the scope and organization: *The Physical Bases of the German Empire* (Ch. I); *The Development of the Constitution* (Ch. III); *The Reichstag* (Ch. V); *The Bundesrat* (Ch. VI); *The Kaiser* (Ch. VIII); *The Law Making Process* (Ch. IX); *The Army* (Ch. XII); *The Railroads, Canals, Posts and Telegraphs* (Ch. XIV); *The Government of Alsace-Lorraine* (Ch. XV); *Germany's Foreign Policy Since 1871* (Ch. XVIII); *The Colonial Dependencies* (Ch. XIX).

The work is exceedingly timely. It is as a whole and in its detailed chapters exceedingly well organized, lucidly written, and forceful. Any person interested in the German nation today (and who is not?) should own this handbook.

C. O. Davis.

University of Michigan.

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EDITORIALS

Secondary Education and the Nation

The Detroit meeting of the Department of Superintendence was impressive with its twenty-one special associations, all more or less intent upon their own platform utterances and open discussion meetings, and with the really wonderfully sustained "audience-attention" at the general sessions. Particularly impressive and enough in itself to make attendance at the meeting worth while was the masterly address of President Butler. Equally satisfying and stabilizing was the steady and always noticeable undertone of real educational activity afforded by the commission, conference and standing committee work of the Department's permanently constituted working bodies. From another angle an observer was inevitably impressed by the maturing self-consciousness on the part of the Department as a whole regarding the distinctiveness of its own educational character. This was specifically reflected in some recommendations proposed by its committee on revision and definition of the scope of the meetings. There seemed in these adopted recommendations a clearing conviction that there must be some philosophy of school administration itself, as well as of so-called educational values, a philosophy of administration moreover which from year to year may well figure in the plans of the particular sessions in such a way as to insure the steady development of a body of administrative doctrine.

There was another evidence of this growing sense among administrators that even what we have been wont to think of as inevitably "educational machinery" must not be machinery, but must rather be that better conceived school organism which is capable of such administratively flexible adjustments that it too, just as classroom teaching, can express a fundamental philosophy of education. We refer to the unofficial but enthusiastic impromptu meeting of leading high school principals from the different states. These men, many of them of some national reputation but not before personally well known to each other, met and formed an Association of High School Administration. This new field of high school administration has therefore at last emerged as a distinct one. There could hardly be a more auspicious moment than the present for such an organization on a national scale.

C. H. J.

Two Points of View of Secondary Education in England

The paragraphs immediately above may well serve to introduce the topic of the present editorial comment. The point to be made is that nations even now in the death struggle are agonizing over the meaning of their secondary education. The following contrasting estimates of the secondary system of England may be of peculiar service at the present time to those who are, as are the members of the National Commission on the Reorganization of Secondary Education, engaged in the profoundly difficult task of reformulating the fundamental principles which should underlie our own national system of public high schools. The first quotation is from John Galsworthy (Diagnosis of the Englishman, N. Y. Times Current History, Vol. II, p. 542), and the second is a copy of an Associated News Dispatch from London, February 10, 1916.

First

This potent element (the English public schools, secondary) in the formation of the modern Englishman, not only of the upper but of all classes, is something that one rather despairs of making understood in countries that have no similar institution. But, imagine one hundred thousand youths of the wealthiest, healthiest, and most influential classes passed during each generation at the most impressionable age, into a sort of ethical mold, emerging therefrom stamped to the core with the impress of a uniform morality, uniform manners, uniform way of looking at life; remembering always that these youths fill seven-eighths of the important positions in the professional administration of their country and the conduct of its commercial enterprise; remembering, too, that through perpetual contact with every other class their standard of morality and way of looking at life filters down into the very toes of the land. This great character-forming machine is remarkable for an unselfconsciousness which gives it enormous strength and elasticity. Not inspired by the State, it inspires the State. The characteristics of the philosophy it enjoins are mainly negative and, for that, the stronger. "Never show your feelings—to do so is not manly and bores your fellows. Don't cry when you're hurt, making yourself a nuisance to other people. Tell no tales about your companions, and no lies about yourself. Avoid all 'swank,' 'side,' 'swagger,' braggadocio of speech or manner, on pain of being laughed at." (This maxim is carried out to such a pitch that the Englishman, except in his press, habitually understates everything.) "Think little of money, and speak less of it. Play games hard, and keep the rules of them even when your blood is hot and you are tempted to disregard them. In three words, 'play the game,'" a little phrase which may be taken as the characteristic understatement of the modern Englishman's creed of honor in all classes. This great unconscious machine has considerable defects. It tends to the formation of "caste"; it is a poor teacher of sheer learning, and, aesthetically, with its universal suppression of all interesting and queer individual traits of personality, it is almost horrid. But it imparts a remarkable incorruptibility to English life; it conserves vitality by suppressing all extremes, and it implants every where a kind of unassuming stoicism and respect for the rules of the great game—Life. Through its unconscious example and through its cult of games it has vastly influenced even the classes not directly under its control.

SECOND

"Not only are our highest ministers of state ignorant of science, but the same defect runs through almost all the public departments of the civil service. It is nearly universal in the house of commons and is shared by the general public, including a large proportion of those engaged in industrial and commercial enterprise."

This statement appears in a manifesto issued by the leading British scientists with a view to waking up the country, which is now governed so largely by lawyers. The signers include names of international scientific reputation such as Sir William Osler, Sir William Crookes, and Sir William Ramsey. They demand that the educational system be entirely revised. The universities as well as great public schools of the country of the type of Eton, Harrow and Rugby, it may be said, are under the control of classically educated clergymen, who still hold largely to the obsolete view that science and the habit of investigation undermines religious faith.

ONLY TWO EXCEPTIONS

Only two exceptions are made in the manifesto to the charge of official ignorance of science—the navy and the medical department of the army. The present government is severely criticized. As an instance of ignorance of physical science among the rules, the public statement of a member of the government is quoted. This statement asked that he and his colleagues be excused for not having prevented the exportation of lard to Germany since it had only recently been discovered that glycerine, used in the manufacture of explosives, could be obtained from lard. This statement went unchallenged at the time it was made. Speaking of the assertion that the making of glycerine from lard is a recent discovery, the manifesto says:

"The fact is, on the contrary, that the chemistry of soap-making and the accompanying production of glycerine is very ancient history. In order that such blunders may be avoided, it is essential that we should have a proportion of men in the government who, if not actual experts, yet have such a knowledge of science that will give them an intelligent respect for it and an understanding of what it can do, how to make use of it and to whom to apply when special knowledge is required."

The scientists recommend the creation of a ministry of science, commerce and industry in the place of the present board of trade, to keep in full touch with the scientific knowledge of the moment. This should accompanied by a demand for scientific requirements, not a cramming for examination but tests of genuine scientific education on the part of candidates for the civil service and for the army officers' schools.

C. H. J.

BOOK NOTES

Frederick J. Allen. *Business Employments.* New York: Ginn and Co., 1916. Pp. 218. $1.00.

This book is written somewhat in response to the supposed demand for elementary texts in vocational guidance. It is concerned with the opportunities for employment in different branches of business—manufacture, trade and finance. This somewhat intensive study of three definite lines of business is here reported with detailed analyses of concrete examples from each field: shoe manufacture, the modern department store, and a banking institution serving as the illustrative examples. Through the first the high school student is supposed to become acquainted with all the mechanical and manual operations in a measure, through the second he is to get a similar general acquaintance with the details typical of mercantile and commercial occupations, and through the third he is to be led to an understanding of the important pursuits whose nature is distinctly financial. It should be of special interest to all teachers of commercial subjects in high schools and should have an influence in the general introduction of more fundamental questions into the commercial curriculums of our high schools.

Emma Miller Bolenius. *Teaching Literature in the Grammar Grades and High School.* Boston: Houghton Mifflin Company, 1915. Pp. xv, 337. $1.25.

Whenever such a book as Miss Bolenius's *Teaching Literature* appears, there arises a cry from certain quarters for more matter and less art. Nor is such a cry unjustifiable, for all too frequently many teachers accept such books not merely as suggestive of better ways of craftsmanship but as a rule and guide of faith and practice. Weak teachers frequently regard such outlines and lesson plans as those here presented much as lazy house-wives regard a can of baked beans. Here is something ready for immediate use, excellently cooked and well seasoned,—dish it out! dish it out and be happy! Perhaps the devil's advocate may reply that both the canned beans and the canned lesson plans are improvements upon former conditions.

"Canned lesson plans," however, is not fair to Miss Bolenius's book; for while it contains many definite and specific outlines, it repeatedly encourages and stimulates the teacher toward independent effort.

The author has chosen to approach the study of literature through a consideration of the various types, such as the ballad, narrative verse, the lyric, the novel, and the oration. While such a plan possesses obvious advantages, it is open to the objection that much English literature cannot be boxed into these compartments and cannot be classified as we might classify a botanical specimen. Indeed Miss Bolenius recognizes this difficulty and acknowledges that "It is hard to tie down to cut and dried classification a thing like literature which is not only alive but growing." Her book is open to the further objection that she attempts to tuck into her chapters on these various types digests of English literary history and little discussions of other matters pertinent enough to the general subject of teaching literature but only slightly related to the theme of her chapter. Thus, a consideration of the use of reference books, good and valuable of itself, dangles at the side of her study of the essay as a type.

It is ungracious, however, to lay so much stress on these few flies in the ointment. In general the book is most excellent and most commendable. Miss Bolenius is certainly a very resourceful, very tactful teacher, wide-awake, enthusiastic, acquainted with the best literature for boys and girls, and able to present these masterpieces to her pupils and to her fellow teachers in a way that is both stimulating and suggestive. Her bibliographical material is excellent.

A Comparative Study of the Salaries of Teachers and School Officers. Washington: Bulletin, No. 31, 1915. United States Bureau of Education.

The purpose of this bulletin is to determine the range and the tendency in teachers' salaries. Interesting comparisons between the earnings of elementary teachers and people in other occupations are brought out. Also, the increase of elementary teachers' salaries over a period of nine years (1904–1913) is shown. The material is presented in tabular form, and some interpretations have been made. Others might come out of a further study of the data presented in the tables.

SAMUEL PAUL CAPEN. *Accredited Secondary Schools in the United States.* Washington. Bulletin No. 7, 1915. United States Bureau of Education. Pp. 106, iv. 15c.

This report has been prepared for the Bureau of Education in response to the demand for such information by colleges, universities, and parents of prospective high school students. The report is in three sections: the first giving a list of the accredited schools in the country, by states; the second giving a list of the accrediting associations; and the third giving a list of the private schools which, for lack of any accrediting agency or for some other reason unconnected with the merit of the institution, were not listed as accredited.

BENJAMIN DUMVILLE. *The Science of Speech.* Baltimore: Warwick and York, Inc., 1915. Pp. 219. 80c.

A careful, readable presentation of the nature of sound production by an able and accurate scholar. The value of this presentation is much increased by the numerous helpful sketches and diagrams illustrating methods of voice production. To those who have been wearied by the much vain and ignorant babble concerning spelling reform and standard English, the chapter on those subjects will seem as refreshing as green pastures and still waters.

MARTIN HEGLAND. *The Danish People's High School.* Bulletin No. 45, 1915. Washington: Department of the Interior, Bureau of Education.

Part I is concerned with the entire system of education in Denmark; the historical development and the present organization and administration of the elementary, secondary, and higher education. Part II deals specifically with the high schools; their origin and growth, the life, aims, curricula, methods, influence, and educational results in these schools. A brief summary of the same points in the schools of other countries follows. The author sees and commends the growing democratic tendency in Danish education.

K. J. HOKE. *Placement of Children in the Elementary Grades.* Bulletin No. 3, 1916. Washington: Department of the Interior, Bureau of Education.

The Commissioner has issued as a bulletin this study of Mr. K. J. Hoke, Second Assistant Superintendent of Schools of Richmond, Virginia. The bulletin contains facts regarding the progress of pupils through the grades; acceleration, retardation, and entering age, and absences in their relation to school progress. The latter part of the bulletin gives accounts of the application of mental tests to Richmond pupils. The conclusion reached by the author is that the present system of grading in Richmond is by no means adequate. It must be supplemented by the use of mental tests in the determination of mental age.

MATHILDE EDITH HOLTZ. *Constructive English Grammar.* New York: The Century Company, 1914. Pp. 280.

"In the preparation of this book, the author has had in mind a grammar that would keep the construction of the English language as it is—not as fitted to a Latin model. Classifications and technicalities not contributing to the language power of the child have been eliminated, the aim being to make grammar a study in the *use* of language to express thought."

FREDERIC LOUIS HUIDEKOPER. *The Military Unpreparedness of the United States.* New York: The Macmillan Co., 1915. Pp. xvi, 735. $4.00.

Major General Wood speaks of this admirable work as "dealing with our military history and policy from the beginning of our national history up to the present day." "This book," says the author in his preface, "has been written under high pressure—only five months having elapsed from its beginning to its completion." He assures the reader however that, in this herculean labor, he has personally verified every single reference cited. It is an impressive and imposing volume, without a rival in its field. It is hoped that the information "shall assist to arouse the American people to a realization of the necessity for adequate defense and shall contribute to bring about the proper strength and organization of land forces of the United States."

It is undoubtedly a volume which should be on the shelf of every school superintendent in the country, not so much for the purpose of changing his policy regarding militarism in education as of acquainting him with the historical bases for judgment on this national issue. The author has decided views of this particular question which seem to us less sound than his views on more purely political questions.

On page 551 we read: "From a military point of view the problem of obtaining men in time of war would be tremendously simplified if military drill, military hygiene and the elements of rifle shooting were made compulsory in every public and private school, as well as in every college and university in the United States. Properly conducted such training might readily be made as little irksome as is the work of the Boy Scouts or of the young men who have attended the Students' Military Camps; * * ." The author proceeds to urge particular colleges to take the lead and get the procession started, assuring them that "great as will be the advantage of such training to the country in time of crisis, greater far will be the benefit conferred upon the individual in his everyday life."

Annual Report of the Secretary of the Interior for the Fiscal Year ended June 30, 1915. Washington: Government Printing Office, 1915.

This report is an illuminating volume. It contains an interesting account of the work of the Bureau of Education, along with other valuable information. It shows that the Bureau and the individual state educational departments are co-operating in a helpful way.

Charles Dickens Lewis. *The Waterboys and Other Stories.* Berea, Ky.: The Berea College Press, 1913. Pp. 80. 25c.

In this little book the author has endeavored to put into story form some of the most important truths of science which are of especial value to the farmer. He hopes in this way that children may become interested in such scientific facts as the water molecule (the Waterboy), the Root Children, the Nitrogen Bacteria, etc., and learn to love and understand the nature life around them.

The stories are intended for children of the first six grades, and are told in an imaginative and attractive way, so that the children will appreciate the fictitious element, and yet easily grasp the underlying truth. Mr. Lewis hopes that the "educated" people may be encouraged to devote themselves more and more to an agricultural life, and that such stories as these may start some child on the way to become an "efficient farmer of the new type."

H. E. Miles. *Industrial Education.* Report of the Committee on Industrial Education. New York, 1915. Reprinted for Distribution by Bureau of Education, Washington, D. C.

An account is here given of the continuation work which is being done in this country, and an account of recent legislation on the subject, particularly in Pennsylvania and Wisconsin. The continuation work in Boston is given especial notice, and the extension of the Gary plan to New York City is classed as a part of the same movement. The committee sees a need for a more general establishment of continuation schools. Continuation work does not at present receive anything like its due proportion of the public interest or the public funds. Without some kind of continuation work, in the opinion of the committee, the pupils who leave school early will derive little benefit from the time spent in the elementary school.

HENRY CARR PEARSON and MARY FREDERIKA KIRCHWEY. *Essentials of English.* First Book, 1914. Pp. 308. Second Book, 1915. Pp. 454. New York: American Book Company.

The first of these two books presents a series of lessons in composition and grammar for students in the fourth, fifth, and sixth grades; the second carries on the work through the seventh and eighth. The two books are in thorough harmony with the best current ideas on the teaching of elementary English. Especial emphasis has been placed on the value of oral exercises and oral composition. The earlier lessons especially have been prepared to include a minimum of precept and a maximum of practice. The work is carefully graded. Especially commendable are the practical exercises in letter writing, which include even the wording of a night message for the Western Union. Praiseworthy, too, are the models chosen for work in reproducing stories and the picture studies which furnish materials for all sorts of exercises both oral and written.

As a whole, perhaps, the first book is better than the second. One wishes that in this latter volume the three hundred and fourteen pages devoted to "the fundamental principals of grammar" had been boiled down somewhat. Many teachers will be glad to eliminate at least a score of lessons in that section of the book.

J. B. SEARS. *Spelling Efficiency in the Oakland Schools.* Oakland: 1915. Board of Education Bulletin, No. 9. Pp. vii, 79.

This bulletin is the report of an investigation conducted in the Oakland schools in October, 1914, and directed toward a determination of the efficiency of the pupils of these schools in spelling and the relation of this efficiency to certain conditions of school work. Tests were given to the pupils of grades (2–8) inc. The word lists used were the same as those used by Ayres in the Springfield Survey. Conclusions are drawn from the results of these tests, as to spelling efficiency in relation to grade, sex, time allotment, social differences, and individual differences. Girls are found to rank above boys in spelling ability rather consistently, as earlier studies have indicated. Ability in spelling is found to be rather highly correlated with social conditions. This last conclusion is not in agreement with the conclusions of earlier investigations in studies of ability in other school subjects. As a whole, the work of the schools is commended. Tables and diagrams are included in the report.

E. H. TAYLOR. *Mathematics in the Lower and Middle Commercial and Industrial Schools.* Bulletin No. 35, 1915. Washington: United States Bureau of Education.

The types of schools included in the title are discussed with special reference to the instruction in mathematics. An examination has been made of the reports of the International Commission, for the United States, Great Britain, the Scandinavian countries, Japan, and the important countries of Europe. The entrance requirements, number of years of the course, kind of support, preparation of teachers, and courses and methods in mathematics instruction are treated for each country where the facts are available.

NEWS NOTES

National Conference on Uniform Entrance Requirements in English, February 22, 1916

New England Association of Colleges and Secondary Schools: Professor William A. Neilson, Harvard University; Mr. Alfred M. Hitchcock, High School, Hartford, Connecticut; Principal George H. Browne, Browne and Nichols School, Cambridge, Mass.

Association of Colleges and Preparatory Schools of the Middle States and Maryland: Dean Francis H. Stoddard, New York University; Professor Clarence G. Child, University of Pennsylvania; Principal Theodore C. Mitchill, Jamaica High School, New York.

North Central Association of Colleges and Secondary Schools: Professor Fred N. Scott, University of Michigan; Principal E. L. Miller, Northwestern High School, Detroit; Professor James F. Hosic, Chicago Normal College.

Southern Association of Colleges and Preparatory Schools· Professor Edwin Mims, Vanderbilt University.

College Entrance Examination Board: Professor H. R. Steeves, Columbia University; Head Master Wilson Farrand, Newark Academy, Head Master F. W. Pine, Gilman Country School, Baltimore.

Conference of New England Colleges on Entrance Requirements in English: Professor G. B. Churchill, Amherst College; Professor Wilbur L. Gross, Yale University; Professor Fred P. Emery, Dartmouth College.

College Conference on English in the Central Atlantic States: Dean Arthur H. Quinn, University of Pennsylvania; Professor Franklin T. Baker, Teachers' College, New York; Professor M. W. Sampson, Cornell University.

The officers of the conference are as follows: Chairman, Dean Stoddard; Vice Chairman, Professor Scott; Secretary-Treasurer, Mr. Farrand; Executive Committee, Professor Cross, Mr. Hosic, and the Officers.

The meeting of the conference this year was in marked contrast to that of 1912. Then all was war; now peace reigned. The chairman's slogan, which he announced as soon as he was installed in office, was: "Strict neutrality; complete preparedness; and watchful waiting." In plain English, harmony characterized the gathering.

The object of the meeting was to legislate regarding the English requirements for 1920, 1921, and 1922. In connection with this task, the following matters were considered:

2. The conference re-affirmed the statement of aims adopted in 1912, except that the phrase, "ability to read good literature with enjoyment," was added. The preamble of the requirement for 1920 and 22, will therefore read "The study of English in schools has two main objects: (1) Command of correct and clear English, spoken and written; (2) Ability to read with accuracy, intelligence, and appreciation, and ability to read good literature with enjoyment."

2. When a vote was taken with regard to the advisability of separating teaching and examinations in composition and in literature from each other, it stood nineteen for, none against.

3. By a vote of ten to nine the phrase, "construction of individual words in a sentence of reasonable difficulty," was cut out of the statement of examination requirements in grammar. The reasons for this were: (1) That the matter is sufficiently covered in the preceding clause, which is "the relation of the various parts of a sentence to one another"; (2) The fact that in some schools too much emphasis has been placed upon parsing; and (3) The contention that there is no such thing as "case" in English, except in pronouns.

1. Certain eastern private schools, finding it difficult to prepare their boys for the examination by means of the large list of books adopted in 1912, expressed a desire to return to the old restricted list. In order to accommodate them it was agreed that examinations based on such a restricted list of books should be offered as a substitute for the comprehensive examinations which the public schools demand. There were strong expressions on behalf of the retention of the comprehensive examinations, because they are calculated to test power rather than knowledge, and because no candidate can pass them as a result of mere "cramming."

4. The question whether or not the conference should urge upon schools the advisability of carrying the teaching of English into all classes was raised. The chairman said that when the physics teacher was asked to teach English he would probably invite the person making the proposition to go to war or its equivalent. Unofficially, it was suggested that the difficulty could be overcome if high school principals were to be selected from the ranks of English teachers only. No official action, however, was taken with regard to this matter.

5. The conference left the preparation of the lists of books to a committee, with Professor Fred N. Scott, of Ann Arbor, Michigan, at its head.

A New Research Bureau

THERE will be opened in affiliation with the Carnegie Institute of Technology. Pittsburgh, on June 1, 1916, a Bureau of Salesmanship Research.

A fund amounting to $75,000 for the support of the Bureau for the first five years has been provided by a group of business concerns to whose initiative the organization of the Bureau is due. Among these co-operating concerns are the Westinghouse Electric and Manufacturing Company, the H. J. Heinz Company, the Armstrong Cork Company, the Equitable Life Assurance Society, the Ford Motor Company, the Carnegie Steel Company, and others. Offices, psychological laboratories and equipment have been provided by the Carnegie Institute of Technology.

The aim of this Bureau is to secure a broader basis of established fact for use in improving present methods of selecting and training salesmen, by accumulating and systematizing information concerning the methods now used by successful firms, by applying psychological tests to the analysis of the mental traits of successful and unsuccessful salesmen, by carrying on experiments in the selection and training of salesmen in co-operation with various firms, and by publishing the results of those studies through appropriate channels.

The activities of the Bureau will be guided by a scientific staff, on which Dr. W. D. Scott, Professor of Psychology in Northwestern University, serves as Director, and Professors W. V. Bingham (Carnegie Institute of Technology), J. B. Miner (Carnegie Institute of Technology), and G. M. Whipple (University of Illinois) will serve as co-operating psychologists. The scientific staff will comprise, in addition to the foregoing, a research assistant and several research fellows.

The fellowships, yielding from $300 to $500, will be awarded to graduate students of superior intellectual ability personality and leadership, who intend to fit themselves for careers as employment managers and supervisors of personnel. There will be opportunity also for students of psychology who wish to prepare docters' dissertations in the fields of mental tests, vocational analysis, statistical method, etc. Inquiries may be addressed to W. V. Bingham, Carnegie Institute of Technology, Pittsburgh, Pa.

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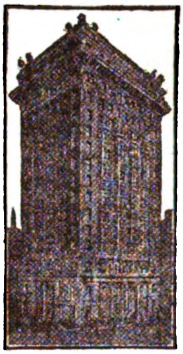

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Scientific Methods in Educational Administration

David Snedden

State Commissioner of Education, Massachusetts

(From Seventy-ninth Annual Report of Board of Education)

THERE is a real need that educational administration shall be made more scientific. The character of this need, when expressed in general terms, is not always clear; but when considered in relation to specific phases of educational administration some possibilities, as well as limitations, in meeting it stand out in relief. For example:

(*a*) In the erection of school buildings principles of engineering science can now readily be applied in such matters as structural arrangements, building materials, lighting, etc. But it is difficult to obtain a scientific handling of problems of the right size of school buildings, size of schoolrooms, arrangement of laboratories, interchangeable use of desks in high schools, need of assembly halls, and the like, because standards as to the underlying educational requirements are still in dispute.

(*b*) When funds are appropriated on a budget basis for designated educational purposes, it is practicable to apply thoroughgoing methods of accounting in recording and reporting expenditures. But it is difficult to arrive at satisfactory conclusions as to principles upon which educational expenditures should be based, because the more fundamental needs and possibilities of the education to be provided cannot be measured accurately or even precisely estimated. Such estimates must often be based upon subjective rather than objective standards. Hence the amounts of appropriations for specific purposes are often based on beliefs or opinions instead of on knowledge of concrete facts, conditions and actual needs.

(*c*) The actual results to be achieved through definite forms of schooling are in only very few cases as yet capable of definite description. We can agree in some measure upon the scope and character of the results to be achieved in teaching children of specified ages spelling, penmanship, computation in arithmetic and reading. But in other lines—kindergarten teaching, art instruction, history study, physical training, and the like—the objective results are capable at best of only most imperfect description and standardization. Hence, while in the subjects first named the results of different methods of organization and teaching are capable in some degree of being tested and compared, in the case of the second group of subjects named no such definite testing and comparison of results are as yet practicable. Even if objectives were clearly defined in these fields, we nevertheless still lack standards of measurement. Hence subjective standards, reflecting beliefs and opinions, are the chief present means of evaluation and comparison.

(*d*) Still less is it practicable at present to apply scientific standards in attempts to determine the value to the individual and to society of the general results of education, as manifested in the adult, in qualities of character, as idealism, adaptability, courage, industry and the like. These qualities, varied as to kind and degree, we find in all adults; but how far in any given case they are due to specific kinds or conditions of education we have no adequate means of determining. Experience proves that particular institutions or courses of instruction which often seem to produce these qualities in desirable form in fact operate chiefly as selective agencies, attracting those who already possess potential possibilities for the development of these qualities.

That education should be less advanced than medicine, agriculture, building, metal production, transportation and war in the application of scientific principles and methods is not surprising when the complexity of the sciences underlying education is understood. Discoveries in the physical sciences laid the foundations for the present organization of transportation, communication, war, and, in large measure, manufacture. The development of the biological sciences made possible modern medicine and agriculture. A system of education based on scientific foundations, while making some use of the data and principles of the sciences already mentioned, must in far greater degree be based upon the sciences of psychology and sociology, neither of which is yet well developed. Each, in its present stage of evolution, may be compared with chemistry in the eighteenth century and biology in the first half of the nineteenth century. A system of education based upon scientific principles must, certainly, derive its aims in part from scientific knowledge of society and in part from scientific knowledge of the child as a subject of education. Scientific methods of teaching—including thereunder the means of teaching, such as books, laboratories, lectures and the like—must also be based largely upon knowledge of the psychology of the child as learner. Hence, while by methods more or less empirical in character, education is steadily making progress, a comprehensive and exact analysis of its problems, as well as the application of sound methods to the improvement of educational administration and to teaching processes, must obviously be greatly helped by the further development of its two most basal sciences,—sociology and psychology.

In the meantime it is of fundamental importance that all educators and all persons interested in education should insist on two things: (*a*) the application of scientific methods generally to the study of all those phases and factors in education to which such methods are even now applicable; and (*b*) the establishment of a persistent and well-supported demand for the further development of the sciences from which contributions to a scientific system of education are to be expected. If we study the history of any one of the great fields of human activity in which scientific control of processes has succeeded to the former custom control—*e. g.*, medicine, agriculture, metal working, building—we find, on the one hand, that the later stages of the era of custom control were characterized by extended efforts to apply scientific methods, and, on the other, that general, irresistible demands arose for the development of the underlying sciences. So extensive has been the former influence in some directions, notably in medicine, agriculture and industrial chemistry, that the actual contributions of new and fundamental knowledge made by the workers in fields of applied science have frequently surpassed in value those made by persons engaged exclusively in research in the so-called pure sciences. There are signs everywhere that a similar condition is now developing in education. "Child study" opened lines of inquiry which resulted in some valuable conclusions which would have been reached more slowly by research in pure psychology. The systematic study of children's learning powers and processes, as exhibited in the acquisition of right habits of reading, writing and spelling, is even now producing substantial results in more effective methods of teaching. Sound methods have recently been applied with success to the study of the mental processes involved in the learning of a foreign language and also to study of the so-called "transfer of training." These studies have also exercised a definite influence on the work of psychologists.

Therefore the demand for a system of education founded on a more scientific basis, now gaining strength among more progressive educators, is entirely reasonable and right. That this demand is also being made by interested and intelligent laymen almost as much as by educators is shown by public (or popular) interest in educational surveys, inquiries and research.

Of the various divisions of educational activity there is no one in the further study of which it is not now possible to apply in some degree the methods of scientific analysis and also, in all work of reorganization and improvement to some extent, to apply scientific principles already well established. Especially can this be done as regards the study of: (1) the social needs met by any department of education; (2) the determination of specific aims of instruction in the lower grades, and the evaluation of results of particular methods of teaching therein; (3) the desirable aims, means and methods of intermediate school education; (4) the aims that should control in secondary education; (5) definite experimentation to discover best methods of training towards vocational competency; (6) the possible and desirable scope of continuation education; (7) the actual results of the kindergarten; (8) possibilities of part-time higher technical education; (9) the actual fields of applied art education; (10) the possible fields of extension teaching, and the best methods of getting valuable results in correspondence instruction; (11) the most effective methods of teaching English and civics to adult immigrants, and the most effective and equitable methods of meeting the cost of that instruction; (12) the scope and character of the training best suited to delinquents; (13) the best methods of fitting defectives for vocational competency with or without custodial care; (14) the improvement of standards of normal school instruction; (15) means of developing systematic training of secondary school teachers; (16) the correlation of practical efficiency already acquired in productive callings with training in teaching methods in the preparation of vocational school teachers; (17) certification of teachers as a means of raising the professional qualifications of all those admitted to the profession; (18) the general use of a portion of the teachers' available time and energy for purposes of further professional improvement; (19) effective means of so enforcing attendance legislation as substantially to eliminate voluntary non-attendance, as has been done in continental European countries; (20) the foundations of sound administration of medical inspection in schools, and definition of the desirable limits to publicly supported preventive and curative activities in connection therewith; and finally (21) administrative means whereby the employment of expert knowledge and right standards may be enforced in the planning and erection of school buildings.

New York and the Gary System

Randolph S. Bourne

New York City

AFTER close observation of the year-and-a-half experiment with the Gary organization in New York City, I can find no reason to alter my original opinion that Supt. Wirt's work-study-and-play school represents the public "school of tomorrow" to which we shall all gradually have to come. I do not pretend that it is the ideal school for all time. I compare it with the best prevailing type of public elementary school organized on the study plan with trimmings of physical and manual training, and I cannot resist the conclusion that, whether we consider the school as a child-community providing the necessary stimulating environment for the growing child, or whether we consider it as a pre-vocational course for the future active and effective adult life in industry or the professions or domestic life, the Wirt plan provides an organization more effective in administration, richer in curriculum and more economical in cost than any plan which the American public is likely to be able to finance for many years to come.

In New York City, the conflict of political interests, the inertia of the educational authorities, the conservatism of the teachers, has prevented the full development of the plan. In the two schools which have been running for over a year and the fourteen schools which are now under reorganization, little more has been done than to institute the mechanical framework. The duplicate-school is in operation, the auditorium feature, organized play, shop-work, and the co-operation of community child-welfare agencies. But the pedagogy has scarcely been affected, the vocational work has not been made to serve the purposes of the school-community, the "application" work has scarcely begun, and the whole liberalizing spirit of Wirt's educational philosophy has been very imperfectly interpreted or comprehended except in P. S. 45 under Angelo Patri. Irritating delays in providing the necessary equipment have hampered the work, aroused the parents and teachers to opposition, and focussed the public attention on minor details of the plan. It can truthfully be said that all the complaints which have been registered against the Gary plan in New York are mere matters of physical adjustment of facilities in the school-buildings. (The religious bogey was mere hysteria, and has already died its death.) A sympathetic and intelligent administration could have had the Gary plan running with perfect smoothness in two months. It is easy to see that a mere matter of leaving unprovided lockers for the children's wraps would in itself be cause of endless confusion in the school. It is on points like these that opposition has fastened, and the protests of an ignorant public have been cleverly manipulated by political interests who found in the Gary plan a useful tool to work up hostility to the city administration. It is significant that the principals of the two schools which were first reorganized are both enthusiastic about the plan. In spite of all the difficulties with which they have had to contend, neither of them can conceive of a return to the old plan. Even at its lowest they find they have a better school than they had before. It is inconceivable that any of the other schools which are being reorganized will return to the old plan, and the work of extension of the Gary plan to other school districts in the city is already going quietly on under the reformed Board of Education.

No one pretends that this change means a sudden transformation of the old mechanical, limited elementary school which automatically sloughed off its non-bookish members after five or six years of dallying with the rudiments. The old teaching is too strongly intrenched. Mr. Wirt has set a new standard of pedagogical and administrative excellence. His plan will require a jacking-up of the educational personnel to a new level. We must expect that the attempt to apply the Gary plan by old-fashioned schoolmen will result in the queerest abortions and mutilations. This we must accept. But that should not deter us from pushing the plan. For it is better to have a broad policy and goal towards which we struggle than not to have any at all. And the Gary plan is such a policy, feasible, flexible, a distinct advance all along the line. For New York City to begin a general extension of the Gary plan would mean that it had decided on a far-sighted school policy, which it might take years to work out, as the schools were reorganized district by district, but which would be progressing towards a twentieth-century school system, instead of merely floundering and living from hand to mouth.

In all the controversy on the Gary plan, Supt. Wirt's own approach has been strangely ignored. I have tried to present this approach in my recent volume on "The Gary Schools," and fortunately his own New York City reports, about to be made available through the courtesy of the Public Education Association of New York, contain his philosophy of education together with detailed and constructive analysis of its application. His strength lies in the fact that he is at once an idealist and an engineer. When his opponents deride him as a dreamer who imagines that the public school can have every facility for children, he can point to the ingenious technique he has worked out by which any community can actually afford this enriched school. And when his plan is denounced as a mere "economy device" he can point to the rich synthesis of educational facilities which his creative economy brings to the school. These two aspects are inseparable, and it will be most unfortunate if the Gary plan is seized upon by business men and superintendents interested only in reducing school expenditures. Wirt does not claim that his school is cheaper in net cost. But, given the usual appropriations, a community may, by the use of the Wirt plan, provide a school with shops, laboratories, gymnasiums, etc., on a scale hitherto believed possible only in wealthy private schools. One has only to visit the amazing school-plants in Gary to see what a relatively poor city may do for its children and adults. Certainly if you get twice as much for your money you are being as economical as if you had spent half as much, and this is the sense in which the Gary plan is an "economy device." A Wirt school can only be managed economically, moreover, if the advanced pedagogical features are taken over also. You must segregate your more talented teachers for the non-bookish subjects, use the auditorium for dramatic presentation of school work, use the playgrounds for great group-games, the corridors for application work, the shops for genuine constructive work. The failure to recognize that the Gary plan is a living organism, a really novel child-community, is sure to cause serious disappointment and disillusionment to those who hope to get the "economy" without renovating their educational philosophy. The present interest in the "platoon plan," a mere emasculation of the Gary plan which, because it ignores the spirit also misses out on the economy, is a measurement of the imagination of school superintendents of this country. It is inconceivable that they will be satisfied with a scheme which takes the mere mechanics of the Gary plan and uses it simply to house more children in a building and reduce the teaching force. They will find that this beggarly application does not even provide the economy they had hoped for. They will then blame the Gary plan, when they have only their own lack of imagination to blame. Opponents of the Gary plan in New York have tried to show that many cities have rejected the Gary plan in favor of the "platoon plan." Where this is true, the superintendents are plainly convicted of a preference for routineer and mechanical education over a freer and creative one. It is significant that those educators, like Principal Patri in the Bronx and Supt. Shepherd in Passaic, New Jersey, who have adopted not only the framework but the spirit of the Wirt school, are those who are most enthusiastic about the Gary plan. In Passaic indeed this enthusiasm is expressing itself in a new school-plant, expressly designed to carry out all the pedagogical implications of the Gary plan. Capital is also being made of the opposition of the teachers. But to resent the challenge which the Gary plan makes to the initiative and intelligence of the teachers is simply to confess that they are obsolescent and cannot be too speedily replaced by a younger and more vivid generation.

Discussion of the Gary plan is likely to be futile unless the approach is made in the same way that Supt. Wirt made it. His first question seems to have been,

What must a model school be like which will provide an environment where children may be busy all day long at expressive work, study and play under right conditions:—an environment which is not only adapted to their individual needs as children but also gives opportunity for the discovery of aptitudes which can be further trained towards an adult vocation?

The answer to this is found in a school-plant like the Emerson in Gary, with its many-sided and inter-stimulating activities, its equipment of shops, gardens, laboratories, swimming-pools, etc., its "learning by doing," its study of objects rather than subjects, its constant effort to educate the whole child.

The next question is,

How may the community finance the lavishly-equipped model schools necessary to realize these educational ideals?

The answer to this is that any community may have such schools if it uses them as a public utility for all the people all the time. By housing two parallel schools in the same plant, one of which studies while the other works and plays, and then alternating activities, the number of school-plants required is reduced. The sums that would be spent on classrooms are spent on equipment and enriched facilities. The smaller number of school-plants reduces the overhead charges of maintenance and operation, while the doubling of classes for group activities and the departmentalizing of teaching reduces the costs of supervision and instruction. The use of the shops for school-repairs makes for additional saving. And all this concentration makes for improved pedagogy.

The problem of introducing the Gary plan in a city system is one of remodelling a school-plant so as to provide the facilities required for the internal reorganization. Each individual school-plant is therefore a separate problem. The newer schools will be easier to remodel. Many of the older buildings of a big city system could be abandoned. The cities that have tried the Gary plan have not been engaging in idle pastime. They have tried it because it seemed to offer a cure for two of their most formidable school evils,—school-congestion resulting in the necessity for "part-time," and a lack of facilities to meet the demands for pre-vocational training. These are the problems to advise upon which Supt. Wirt was brought to New York. He estimated that at a cost of $6,000,000 he could abolish the part-time evil by means of the duplicate-school plan in 150 congested schools. The Board of Superintendents after a long investigation reported that this reorganization would cost nearly twice as much. Accepting their figure as a minimum instead of the very highest maximum they could produce, what we have to compare their figure with is not Supt. Wirt's lower estimate, but the estimate of *$40,000,000* which this same Board of Superintendents made for the capital outlay for new schools necessary to effect the same result of relieving congestion on the traditional plan. The significance to the public is enormous. For the six to twelve million dollars are within the bounds of procurability. The forty million are not. The forty million expenditure, moreover, would involve huge additional sums for operation and maintenance, and would besides provide few of the enriched facilities that the Gary plan involves. This means that New York, by the adoption of the Gary plan could get the enriched curriculum and the longer school day for all its children which it can never afford or procure on the traditional plan. This is the real issue, and it is important that it should be understood.

The opposition of the local schoolmen can be readily understood. The New York system is one of the most perfect examples of the obsolescent, formalistic, uniform, inspector-examination, education which was so completely exposed in the Hanus Survey and by Prof. Cubberley and his associates in the recent Portland Survey. Its administrators have made the system what it is, and they are naturally satisfied with it and their routine direction of it. New ideas of any kind would seem to them *ipso facto* menacing. Criticism from them of any novel educational philosophy would register their reluctance to change rather than any genuine judicial weighing of its pedagogical merits. However impartial his mind may be, no man can fairly be asked to become his own judge, jury and executioner. Yet to ask New York schoolmen for "evaluations" of the Gary plan is exactly to perpetrate this cruel and unusual punishment upon them.

It is with this in mind that judgment should made of a very curious piece of statistical work that recently came from the City Superintendent purporting to show the inferiority of the New York Gary schools in all the fundamental subjects. The method adopted was to compare the average rating of the *two* Gary schools then in operation with an average of *eight* regular schools selected, supposedly at random, from the hundreds in the city. One of the Gary schools was in process of re-organization at the time of examination. The other had been running four months. Yet this test, computed by averages which included a Gary school that had not even begun to be really operated on the new plan, is put forth as serious evidence of the inferiority of the Gary plan! Analysis of the figures shows, however, that the Gary school which had been operating under the new plan long enough to make an examination mean anything at all actually excels in its ratings in all subjects the averages for the eight regular schools! And this in both the March and the June tests! Furthermore, in spite of the fact that the average of the regular schools shows an improvement in that time, it still falls behind the June average rating for the Gary school. The perfectly illegitimate statistical trick of comparing an average of *two* fixed schools with an average of *eight*, taken by random sampling, and the use of such a test in an effort to discredit the Gary plan, is illuminating with reference to the mind of some New York schoolmen.

A Descriptive and Critical Study of Buckingham's Investigation of Spelling Efficiency

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DR. Buckingham's attempt to standardize ability in spelling is conspicuous not only as the first really serious work of its kind but, also, as one of the best instances of the application of the statistical method of investigation to the study of educational problems.

Aim. The particular problem of the investigation is to derive a scale for the measurement of spelling ability and to show some of its uses and applications (Buckingham '13, p. 1).

Means. The author relates his problem to the now general movement toward the derivation of scales for the measurement of ability in school subjects, and mentions with apparent approval the work of Thorndike in Handwriting ('10) and of Hillegas in English Composition ('12). The tests of Cornman and Rice are criticized particularly in regard to the failure to consider the unequal difficulty of words. Reference is made to the failure, in the same respect, of Wallin ('11) and of Pearson ('12), although it is reported that the latter recognized the fact but failed to offer a remedy.

The preliminary test material consisted of 270 words ("The Original List"). These were taken from a list of 5000 words selected from five popular spellers.

The words, in sentences, were dictated by the class teacher, guided by printed directions, during the fall term of 1910, in schools I and II. Care was taken to secure uniformity in presenting the tests and in checking the results. The papers were rated, first, as to the number of times each word was correctly spelled; and, second, as to the per cent. of the entire number of words each pupil spelled correctly.

On the basis of the results of the preliminary test a group of one hundred words ("Selected List") was chosen, of such difficulty that they were neither too hard for the lower grades nor too easy for the pupils of the upper grades. Sentences containing these words were dictated at schools III, IV and V in the spring term of 1911; at schools VI and VII, in the fall of 1912. Later 18 additional words were given at schools III, IV and V. The results of these tests give the material for the ranking of pupils and for the scaling of words.

From the 118 words used in the Selected List a few words ("Preferred List") were chosen "which showed reasonably regular increase from grade to grade in the per cent. of times they were spelled correctly." Two lists were made up, each containing 25 words. The first ("First Preferred List") is somewhat superior to the second ("Second Preferred List") in the testing power of the words in all grades and in the permanence of their relative difficulty throughout the grades.

To further establish the value of the lists the behavior of the words "as between grades in each school and in all schools combined" was investigated by the use of the Spearman "Foot-rule" method of correlation. Correlation figures were worked out (1) for the several grades of each school, and (2) for the same grades of different schools. (1) The correlation for the several grades of school I varied between .88 and .93, with an average of .90 (P. E. equals .026). The other schools did not show as high a correlation although the average did not fall below .42 in any school. For all schools combined the coefficients of grade to grade correlation range from .47 to .93, with an average of .76; A. D. equals .12.

(2) With the purpose of detecting possible school differences the author next studied correlations between schools. The results show: average, school with school, a variation from .48 to .75, with a median of .69; average, each school with all schools, a variation from .73 to .89, with a median of .83. The Second Preferred List was subjected to the same treatment and was found, on the whole, to be slightly inferior to the first in the closeness of correlations.

The author concluded from his study of the two lists: "Our lists, therefore, prove to be well selected. Success and failure in spelling them may be used with considerable confidence to measure the thing we call spelling ability." (p. 25.)

In addition to the material already mentioned two tests, the Easy 50-Words Test and the Rice Test, were used to supplement the Preferred List. These will be mentioned again under procedure.

The subjects consisted of 8791, IIId to VIIIth grade pupils, selected from one private and six public schools of New York City and vicinity. The schools represented a fair selection of both sexes from the various inhabitants of a cosmopolitan district.

Method. The material was collected by class tests and subjected to statistical treatment.

Procedure. The general procedure was to submit to typical school children, sentences containing a large number of selected test words and, on the basis of the actual performance of the pupils, to choose a set of test words of approximately uniform variations in difficulty from grade to grade. The performance of individuals was used to locate grade medians and to establish median intervals. This was done by taking into consideration the amount of overlapping. The performance of words was used to indicate their relative positions with regard to grade medians. Combining these two facts each word was located with reference to the third grade median as the point of reference. Finally, the "scale" was extended and supplemented by other words which at the lower end served to locate the "zero point" of spelling ability. A control test was given in two schools to check up the median grade intervals originally derived.

In order to find the zero point of spelling ability a test was given to the second, third and fourth grades. It consisted of 50 words of which nineteen had already been used in the Selected List, and thirty-one were thought to be among the easiest words in the English language.

On account of the marked improvement of the children in the latter half of the second school year, the two halves were treated separately. No children of the IVth, IIId or II B grades failed entirely in this test. In II A, however, 39 children were rated 10 per cent. or less. Of these there were eight pupils who were actually marked zero. This is 4.6 per cent. of all the children of II A. The medians for the grades were as follows: II A, 26.50%; II B, 56.17%; III, 72.50%; IV, 88.12%.

The II A grade median was about 3.22 P. E. below the IIId grade median. Assuming the normal form of distribution, the eight pupils of II A (4.6%) who spelled no words correctly would bring the zero point to 5.72 P. E. below the IIId grade median. In regard to locating the zero point, however, the author says: "If we were to assume that some of these children—say those who wrote no more than three words correctly—had zero ability, we should find that 29 of the 39 in Table XXI were included..... There are reasons for thinking that this is not far from the true position. The best judgment, therefore, that we can make from our data and from our knowledge and experience of school conditions is that the zero point is about 1.5 P. E. below the II A median, or about 4.72 P. E. below the IIId median.....As to the distance of the zero point below the IInd grade median we cannot be precise." (p. 60.)

To obtain scores for a new series of words by which the grade and general scales could be supplemented and extended, the author used the sentence test of Rice. Tests were given and the words were placed on the scale as before.

In order to compare the words of the list in respect to the order of difficulty with the same words based on teachers' judgments, the author asked a number of teachers "to arrange the words in what they judged to be their order of difficulty for children to spell, beginning with the easiest." (p. 70.) From the judgments of two hundred teachers the author concludes that the judgment of a single teacher is of little value, while the combined judgments of many teachers is a much more precise index to the relative difficulty of words.

Primarily in order to check up the median grade intervals, used in constructing the scale, the Selected List (100 words), during the fall term of 1912, was dictated at schools VI and VII, to 1770 children. In general, schools VI and VII did not do as well as those tested earlier. On the average the grade medians were nearly six and one half per cent. lower. The author accounts for the decreased percentage in the latter case (a) by the wide variability among schools and (b) by differences in the manner of presentation. Class teachers administered the first tests; a single examiner, the control test. As to the median grade intervals, the results (with one exception, M5–6) compared closely with the figures previously found.

On the basis of the elimination figures of Thorndike, Ayres and Strayer (pp. 87–88) a hypothetical plan of elimination and retention for each grade was worked out. The author then applied this data to the normal curve of frequency and derived therefrom a modified distribution which takes account of the amount and range of elimination as estimated (pp. 89–91).

The author found that the modified distribution made a considerable difference in the scaling of words, and that the general effect was to shorten the range of grade scales.

Results. The results that may be presented here relate to (1) the ratings of individual pupils, (2) the relation of grade to spelling efficiency, and (3) scales. (1) The distribution of the ratings of individual pupils shows: (a) The average deviations for grades III to VIII are 18.0, 20.9, 10.4, 10.0, 7.9, and 5.8, respectively. (b) Overlapping is instanced in every grade except in case of the third over the eighth, and vice versa (Table XIII, p. 72).

(2) In regard to the relation of grade to spelling ability, the order of spelling ability is II A, II B, III, IV, V, VI, VII, VIII. Distances above the zero point are 1.50, 3.37, 4.72, 6.07, 6.91, 7.96, 8.62, and 9.83, respectively. (Table XXIV, p. 61.)

(3) The general scale comprises the words of the Preferred Lists, Easy 50-Words List and the Rice List; grades II A to VII, inclusive. (Figs. 26–29.)

Conclusions. The statements which the author presents under "conclusions" concern (a) a general summary of procedure, and (b) a plea for word criticism on the part of teachers. Elsewhere certain general statements are made which we may include under the title of conclusions. They follow:

(1) The performance of each grade gives standards for grade performance (Figs. 14–19).

(2) A pupil of the fourth grade may be tested by beginning with the easiest word and proceeding to the next hardest, and the next and so on.

(3) The scale may be used as a whole, by selecting words to be at equal intervals, and by grouping words so that the groups are equal or differ by equal amounts.

(4) The scales (Fig. 25) "may be used to great advantage in testing the spelling ability of children in any grade of the elementary school in which children are supposed to have such ability" (p. 82).

CRITICISMS

Aim. The necessity on the part of school officials to show that, for every increase in the expenditure of public money there is a commensurate gain in educational products; to show that educational profits balance educational costs, in time and energy;

in short, the application of business principles to education—demands an accurate means of measuring school efficiencies. The attempt on the part of the author to meet such a demand in the field of spelling is, in itself, notable and praiseworthy.

The question of the practicability of such a scheme may well be left to a later section for consideration in the light of what has been accomplished in this study.

It is to be noted, in the first place, that the author does not define clearly his main term. "Spelling ability" means capacity. This the author did not study at all completely. Capacity can be studied only in relation to the conditions, energy expended, etc., under which a given task is accomplished. The latter only partially reveals what children can do. The author limits his study to a study of results; and spelling ability in this study means efficiency as shown by the results of group tests.

Means. None of the historical material bearing upon the study of spelling efficiency is reported, except the mere mention of the general movement toward the derivation of scales, and the reference to the studies of Rice, Cornman and Wallin. These were criticized as regards material only, that is, in respect to the unequal difficulty of words. From these the author apparently draws his problem.

The material represents an insufficient quantity of words carefully selected with regard to familiarity and graduated difficulty. It is to be noted that, whereas previous investigators relied entirely upon their own judgment for the selection of graded material; in this investigation, the author allowed the children's performance to decide the matter. The use of material of graduated difficulty, given to all grades uniformly, makes it possible to compare the efficiency of pupils of various grades, ages, etc.

The attempt to get a homogeneous group of words led the author to the further study of the words of the Preferred List. This part of the study is interesting because, for the first time, it introduced the method of correlation in the study of spelling. In correlations we are dealing with causal relationships and laws. We are dealing with phenomena which cannot be separately controlled and so must be lumped together. In any trait there are numerous causes working, some in one direction and some in another. If in comparing two traits we find that the total effect of the causes is to produce similar changes in each, we say that there is a positive correlation; if the changes are opposed, we say there is a negative correlation; and if the changes just balance each other, we say there is no correlation at all. It is obvious that there are various ways of measuring this tendency of two traits to vary together. The author used the so called Spearman "Foot-rule" method, the method involving the comparison of the relative position of the members of two series. In comparing the order of words for difficulty between the grades of the same school, and the corresponding grades of different schools, it was found, that there was a strong positive correlation, that is, that the words held approximately the same order of difficulty in the several grades of the various schools. What had been accomplished, then, in the effort toward homogeneity was: (1) the elimination of words whose spelling is controlled by fluctuating and incidental causes; (2) the selection of words whose spelling is controlled by regular causes, that is, causes which affect the various words in approximately the same proportion throughout the grades.

The homogeneity thus arrived at is a subtle one. Its significance depends upon the validity of the method used. We may notice that the particular method used by the author has certain limitations which are common to all methods of correlation. In the first place it shows only indirect relations and should not be used where relations can be shown by simpler methods. Second, the relation shows only general tendencies. Third, it does not show causes. The barrenness of the method in pedagogical studies lies in the fact that it of necessity conceals the things which the teacher wants to know. Instead of analyzing causes it bunches all causes together. Instead of tracing results as due to particular conditions it is satisfied if it can relate effects. It is concerned with vague, general tendencies while teaching and learning are made effective by a knowledge of individual differences and specific relations. For example, method, familiarity, maturity of pupil, and teaching efficiency are probably factors which affect the difficulty of words, and from the pedagogical point of view they are of fundamental importance. Statistically the part played by each is obscured, in the effort to determine the relation between the mere difficulty of the words. The particular difficulties of the "Foot-rule" relate chiefly to (1) the inequality of the units, of position, with the consequence that those at the extremes have undue importance, and (2) the assumption of a similar and improbable form of distribution. It is to be observed, however, that in actual comparison with the other methods the "Foot-rule" method held a near median position in this study (Table VI, p. 19).

Within the general limitations of the method of correlation, it may be assumed that the author has succeeded in deriving a remarkably homogeneous list of words. It is to be remembered, however, that it is a statistical not a pedagogical homogeneity.

Method. From what has just been said we may generalize and say that a method may be statistically perfect and yet be of little direct pedagogical significance. For example, the problem of the method of teaching is one frequently touched upon in statistical investigations. Let us suppose that these investigations have been conducted, perfectly, and that they have shown that method A produced an average class efficiency of 85; method B, 90. Statistically method B is the superior method, but pedagogically it may be inferior to method A when methods of the economy of learning and teaching are considered. Method B, that is, may require more time, more energy of pupil or teacher, and may develop worse habits of study, etc., in proportion to results than method A. To illustrate, the phonetic method in teaching beginning reading secures much greater immediate results, but there is good reason to believe that it makes slow readers for life. Statistical methods do not bring out such facts. This is not saying that the statistical method has no place in studying educational problems. We do maintain, however, that science in education demands the restriction of statistical methods, first, to the problems to which they are adaptable; second, to the drawing of tentative or "symptomatic" conclusions. The attempt to make the statistical method do more than this is to bring it into disrepute and to prejudice whatever utility it may have.

Neither is it claimed that a study of mental processes and pedagogical conditions, alone, will reveal the best practices. Such a position would be as untenable and unscientific as the exclusive reliance upon statistical results. A study of the economy and hygiene of learning is significant only in relation to the results accomplished. We conclude, then, that the science of education is interested in the processes and conditions of learning and teaching as well as in the results; that these are but steps in a single process; and hence, that any complete study of an educational problem must consider each in relation to the other. Any study that does less than this is unnecessarily fragmentary, prejudiced and therefore unscientific.

The application of the discussion to the immediate study is, that Dr. Buckingham in his study disregarded pedagogical considerations, and that any results he may obtain will have statistical value only. Whether such results are of utility in solving educational problems will depend, if our statements above are correct, upon whether or not they are related to the pedagogical conditions and practices. This brings up the utility of the scales and this discussion will be reserved until after a brief consideration of how the scales were derived.

Procedure. The plan of the investigation was defective in that conclusions were based upon results, unprotected by preliminary tests, and unchecked by control tests. The variability of results in schools II, III, IV, and V as compared with those of schools VI and VII which the author says was largely due to differences in presentation, suggests the need of a preliminary test to establish the proper method of presentation, if for nothing else. At least such difficult things as standards for grade performance and word difficulty should be put in scales for general use only after careful checking up by control tests. The author's results noted above, when the same tests were given to two different sets of schools, emphasize this need. He found the differences between the medians of the several grades to vary from 9.53% to 2.72%, with an average difference of 6.3%. The median grade distances were found to be practically the same in both tests.

The important steps of procedure were the establishing of grade medians, the fixing of average word difficulties, the constructing of the scale by relating grade medians and locating the words upon "the linear projection." This involved an exceedingly painstaking and laborious but straightforward bit of statistical work.

To establish a scale of greater utility the author took two other steps not so straightforward, namely, the locating of a zero point and the correcting of the assumed form of distribution. In locating the zero point, the chief difficulty lies in deciding just where it ought to be. Spelling ability is not something that bursts into full bloom over night to lighten the burdens of the investigator. It is a gradual growth, a continuous process, proceeding probably from very distant and simple beginnings. Just where in the process zero ability lies is evidently a matter upon which teachers and investigators would disagree. The author made the best possible judgment from the evidence that he had at hand. The evidence was partly objective, to that extent it is verifiable and scientific; partly subjective, and to that extent it is unverifiable and unscientific. The objective evidence would be more convincing if more material had been used. The author's own attitude toward the arbitrariness of the zero point is somewhat wavering. [At times he calls it "estimated" (p. 64); at other times, "absolute" (Fig. 29, opp. p. 82).]

It is to be noted also, that arbitrariness in locating the zero point, since it is at the lower end of the distribution where the cases are few, has an important effect upon the ratio when differences are compared. Thus taking the performance of 29 instead of 8 pupils as the zero point moved the zero point 1 P. E. The significance of this is seen when it is noted that the fifty words of the Preferred List spread over only 2.92 P. E., and all the words of the three lists do not exceed 10.10 P. E.

The derivation of truer forms of distribution represents probably the best results that can be obtained at the present time. At best it is a guess and as the author says should be taken as a method of attack rather than as a solution to the problem. It is sufficient to note, as he has pointed out, that the derived form of distribution does change the results, significantly.

Results. The result of the investigation is the scale for measuring spelling ability. We have seen that in the construction of the scale pedagogical questions were not considered. Hence it cannot be used for measuring pedagogical facts. It is essentially a statistical and not a pedagogical instrument. As a statistical instrument, an instrument for measuring mere quantity, it will be considered in this connection.

As such two limitations have been noted, namely, the assumed form of distribution and the more or less arbitrary nature of the zero point. Each has been more or less clearly pointed out by the author. There remains another more fundamental question, which the author takes for granted. This is: is standardization practicable in spelling, and if so under what conditions may it be realized? In view of the general although uncritical acceptance of this proposition in other fields of investigation, it may seem well to raise it here. Those familiar with the history of the subject will agree in assuming that, a priori, standardization is a mixture of wheat and chaff. This, I believe, is no less obvious than the fact that clear thinking and acting on pedagogical questions demand a separation of the chaff from the wheat.

Two sorts of standardization are used in the construction of the scale, namely, standardization of word difficulty and standardization of grade efficiency. The success or failure of the work lies, largely, in the ability to accomplish these two things.

The question at once arises, what is standardization? If it means anything, standardization means fixing the typical performance of a group, of such a nature that to be above it is to be more efficient, and to be below it is to be less efficient. Standardization which does not show relative efficiency, shows nothing.

Standardization does not show relative efficiency when the differences in results are caused by the incidental conditions of the test. For example, the average school percentages varying from 33 per cent. to 95 per cent., as found by Rice in his first test, did not show real differences in spelling efficiency. As he found, some of the higher averages were due to the manner of presentation. Conditions acting in such a way may be (a) external or (b) internal to the pupil. They include (a) manner of presentation, climatic conditions of temperature and humidity, time of day and of year, school term, school conditions of seating, copying, writing material, speed of writing, method of checking results, etc.; and (b) motive, fatigue, disposition, preparation, etc.

In the second place, differences may represent real variations in efficiency but the results may lack significance. This may be true because the variability of a group is not considered, or because the actual variation in conditions representing true differences in efficiency is so large that an average or median lacks precision as a standard.

The second proposition is a matter for experimental determination and, at the present time, we have little objective evidence to present where the same tests were used by different investigators. The test most frequently repeated is the "Sentence Test" of Dr. Rice. This has been given by Rice, Cornman and

Buckingham. The results that each obtained appear in the following table.

TABLE I.

Median results obtained in the use of the Rice Sentence Test—by Rice, Cornman and Buckingham.

	Grade	IV	V	VI	VII	VIII
Rice ('95)	No. of classes	18	39	35	28	28
	Median	68.5%	75.8%	71.0%	78.8%	86.4%
Cornman ('98)	No. of pupils	89	133	85	71	60
	Median	83.0%	78.0%	74.6%	78.7%	90.6%
Buckingham ('13)	No. of pupils	507	470	396	367	244
	Median	48.1%	64.1%	58.5%	73.8%	82.0%

The differences in the medians obtained by each investigator are given in Table II.

TABLE II.

Differences in medians in the use of the Rice Sentence Test, as obtained by Rice, Cornman and Buckingham.

Grade	IV	V	VI	VII	VIII	Average
Rice—Cornman............	14.5	2.2	3.6	—0.1	4.2	4.9
Rice—Buckingham.........	—20.4	—11.7	—12.5	—5.0	—4.4	10.8
Cornman—Buckingham.....	34.9	—13.9	—16.1	—4.9	—8.6	15.7

From these tables it is evident that much variability (the average difference is 10.1 per cent.) in results appears where precisely the same tests are used by different experimenters. In speaking of this comparison Dr. Buckingham says, "We cannot account for this because neither of these investigators tells how he rated the pupils' papers" (p. 78). But Dr. Rice reports, "As for my method of scoring I gave no credit for words unless they were clearly written." So it would seem that the differences in results cannot be traced chiefly to the manner of checking.

No one, as yet, has published results with which the standardized word difficulties of Buckingham can be compared. It is safe to assume, however, that variability here is also great.

Conclusions. The important conclusion of the study relates to the use of the scales. The author says, "The scales may be used to great advantage in testing the spelling ability of children in any grade of the elementary school in which children are supposed to have such ability" (p. 82). The question of practical importance is, for what purposes is use to be made of the scale? In answer to this question the author is silent. Is it to be used by the teacher, by the supervisor or administrator, or merely by the investigator? Is it to be used for the ordinary purposes of instruction, for school supervision, or for experimental investigation?

While the purpose of the scale was left in question by the author, such devices have found their greatest utility in the hands of administrative officials rather than in the hands of teachers. This is particularly true in this instance because of the small number of words in the scale, and the necessity of using large numbers of children in order to get typical results.

In this connection the author's conclusion that the scale is to be used for testing individual pupils seems entirely out of harmony with the whole investigation, which throughout sacrifices individual differences for mass results; variability, for central tendencies. Prof. Thorndike in a recent article (3) makes it clear that the scale is to be used in testing large numbers of pupils.

Such use of the scale was made in Dr. Buckingham's recent "Survey of the Gary and Prevocational Schools" of New York City. "The purpose of this investigation has been to determine to what extent the Gary Schools and the Prevocational Schools have been able to give as effective instruction in the academic subjects as have the regular schools" (4, p. 7).

Without entering into a detailed discussion of this report it may be said that the investigation was well conceived and was executed along the lines of the most approved principles of statistical investigation. The study shows the same skill and careful workmanship that is displayed in the author's previous studies. Nevertheless, in interpreting the results which are in themselves indisputable the tendency to err, by those who submitted the report as well as by those who read it, is great. These interpretations are in the main unfavorable to the Gary Schools. The conclusion of Dr. Maxwell seems to be that the Gary System has been proven *ineffective* as compared with the other systems. Even the qualified statements of Dr. Buckingham seem to commit him to the same conclusion. "The evidence afforded by this report is unfavorable to the defense" (p. 59).

The results of the investigation leave us wholly unable to decide which system of schools does the most effective work in the teaching of these five subjects, including spelling. We know that one system showed greater gains in numerical results than the other. We do not know which system spent the most time and money in securing these results. To decide the question on the basis of the first set of facts would be as illogical as it would be for a business man to decide the relative efficiency of two forms of business organization on a comparison of gross receipts. The school as well as the business organization must compare gain with cost in order to reckon profit. In case of the school the complete determination of the cost offers some difficulties; yet, two of the most important factors may be easily determined. These are the cost in time, e. g., minutes per week, and cost in money. The differences in gains are not large for three months of instruction and if the Gary Schools obtain the same or nearly the same results, for example, in one-half the time and at one-half the expense; far from being ineffective, they are the most effective of the schools compared.

I do not have the facts at hand with which to compare the final statements of the report. The point is that matters of educational cost are not included in the investigation, and that in drawing inferences and conclusions these matters are not considered.

Whether the immediate utility of Dr. Buckingham's original study is large or small the investigation is not fairly judged on this basis, alone. It is regarded by the author merely as a foundational study. As such, it elaborated and applied a method of careful, scientific inquiry; it stimulated investigation and became a source of suggestion for later investigators, some of whom have worked out more practicable although less exact schemes; it established the fact of the inequality of word difficulty and the unsatisfactoriness of a single teacher's judgment in this particular—a fact as much worth the attention of the teacher as of the efficiency expert.

In conclusion, we observe that while some have attacked all scaling as fundamentally and inherently unwarranted we have made the distinction between the scale as a pedagogical instrument and as a statistical instrument. The most serious objections to standardization and scaling refer rather to the use of the instrument than to the instrument itself. These objections may be met either by constructing scales which take into consideration pedagogical conditions, which I believe to be impracticable, or by limiting the use of scales to quantitative measurement.

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A Statistical Study of School Reports from the Twenty-five Largest Cities of Indiana

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MUCH of the labor expended on school reports is lost because they are not in a form useful for comparison. The following tables are the result of an effort to make available for administrative purposes a part of the annual reports of city superintendents in Indiana to the State Department of Public Instruction. The reports of the twenty-five largest cities in the state, being all those over ten thousand population, have been analyzed. It is evident on the surface that some of the items reported have been calculated on different bases in different schools, that terms have not been well defined. In the main, however, the comparisons represent actual conditions and the medians give a fair measure of current practice in Indiana cities.

Since the tables themselves are the important thing the cities have been designated by letters rather than by name. In order to show the presence or absence of any relationship between the size of the city and the facts presented, the cities have been named in the order of their estimated population beginning with the largest as A, the next smaller as B, etc. Population has been estimated by adding to that given in the 1910 census one-half of the gain or loss in the preceding ten years.

No extended comment is necessary on the data presented in the tables. They are the common facts with which the school administrator checks his present practice and his future plans from year to year. They are presented here in the hope that they not only may be useful in themselves but also that they may offer a suggestion in method and material for a more extended study in this field. It is to be hoped also that by this means we may assist the movement for the standardization of school reports, conserving what is of value and eliminating much that is useless.

TABLE 1.

	Column 1		Column 2		Column 3		Column 4		Column 5	
Rank	City	Ratio	City	Ratio	City	Ratio	City	Ratio	City	Ratio
1	Y	20.9	N	95.8	W	26.2	R	18.2	A	9.6
2	Q	16.2	X	94.0	P	23.4	U	17.7	W	8.8
3	I	16.2	Y	93.7	J	23.4	K	17.3	D	8.7
4	W	15.8	E	87.6	X	21.5	J	16.3	J	7.6
5	K	15.8	V	87.0	N	19.7	O	16.3	Q	7.4
6	R	15.7	K	86.5	U	19.5	X	15.9	P	6.8
7	X	15.1	W	85.5	K	18.9	D	15.8	L	6.7
8	J	14.6	L	85.1	A	18.5	W	15.7	Y	6.7
9	O	14.4	P	84.9	Q	18.5	U	15.4	V	6.5
10	G	14.3	T	84.2	B	18.0	G	15.3	X	6.4
11	S	14.2	J	83.8	R	17.9	N	15.3	H	6.2
12	H	14.0	U	83.4	L	17.4	A	14.9	B	5.9
13	V	13.8	M	83.2	Y	16.7	E	14.8	O	5.8
14	L	13.8	F	82.9	M	16.4	Q	14.6	M	5.6
15	N	13.6	R	82.7	D	15.7	S	14.2	C	5.4
16	P	13.5	O	82.2	T	15.1	H	14.1	N	5.4
17	E	13.2	Q	81.1	O	15.0	F	14.0	K	5.3
18	D	12.6	G	80.1	S	14.6	M	13.9	E	4.8
19	U	12.3	D	79.8	G	13.6	C	13.5	U	4.6
20	M	11.3	I	76.3	E	13.5	I	11.6	I	4.3
21	B	10.9	B	75.8	C	12.3	L	11.3	S	4.1
22	F	10.6	S	73.5	V	12.3	P	11.3	G	3.9
23	A	10.2	A	71.0	I	10.5	T	11.1	R	3.3
24	T	10.0	H	69.8	H	10.3	B	11.0	F	3.2
25	C	9.2	C	65.3	F	7.5	V	10.8	T	2.6

EXPLANATION, TABLE 1.

Column 1. Ratio of the total average daily attendance to estimated population, expressed as per cent. It reads: In city Y the average daily attendance in the public schools in the year 1914–1915 was 20.9% of the estimated population. In city Q it was 16.2%. The median was 13.8% in city V.

Column 2. Ratio of total average daily attendance to total enrollment. It reads: In city N the total average daily attendance was 95.8% of the total enrollment. The median was 83.2%.

Column 3. Ratio of the average daily attendance in high school to average daily attendance in the grades. It reads: The average daily attendance in the high school of city W was 26.2% of the average daily attendance in the grades. The median was 16.7% of the average in the grades or 14.3% of the total average daily attendance.

Column 4. Ratio of the number of high school graduates to high school average daily attendance expressed in per cent: The median was 14.8% in city E.

Column 5. Ratio of the number of grade graduates to grade average daily attendance. In city A it was 9.6%. The median, city O, was 5.8%.

TABLE 2.

	Column 1		Column 2		Column 3		Column 4		Column 5	
Rank	City	Ratio	City	Ratio	City	Ratio	City	Cost	City	Cost
1	U	58	H	94	Y	90	I	45.63	S	85.70
2	J	51	Y	94	T	89	C	32.24	H	79.79
3	S	48	T	90	X	88	H	31.05	V	77.92
4	W	47	G	90	G	88	D	30.67	B	75.04
5	X	45	P	88	U	86	N	30.49	N	74.04
6	K	44	I	87	O	85	E	29.81	U	72.41
7	M	44	X	87	Q	83	A	29.80	C	72.26
8	N	41	U	87	J	81	B	28.45	D	68.82
9	V	39	C	86	P	81	W	28.43	E	67.47
10	F	39	O	83	S	81	L	27.55	A	67.12
11	Q	37	R	82	A	78	F	27.48	I	66.98
12	C	37	Q	81	E	78	P	27.20	T	58.76
13	R	35	N	79	K	78	T	26.41	J	57.02
14	D	33	F	77	C	76	V	24.57	F	56.83
15	Y	31	B	76	V	76	S	24.52	K	55.55
16	B	31	M	76	W	76	J	23.72	M	55.00
17	L	31	L	76	D	76	G	23.18	Y	52.00
18	P	31	J	74	F	75	U	23.11	W	50.93
19	A	30	W	73	R	73	K	22.18	L	49.26
20	E	30	A	71	B	71	Q	21.50	Q	47.19
21	O	27	E	68	H	71	M	20.63	X	43.91
22	T	27	V	67	L	70	X	20.26	G	41.18
23	G	25	S	66	M	68	Y	19.11	R	41.09
24	H	20	K	65	N	66	O	18.96	O	39.53
25	I	13	D	53	I	54	R	18.65	P	39.28

EXPLANATION, TABLE 2.

Column 1. Ratio, as per cent, of total expenditures for high school to total expenditures for grades. City U spends 58% as much for high school as for the grades. The median is 35%.

Column 2. Ratio of amount paid for teaching in high school to total cost in high school. City H reports 94% spent for teaching, City D, 53%. The median was 79%.

Column 3. Ratio of amount paid for teaching in grades to total cost in grades. The same wide variation occurs as in Column 2. The median was 78%.

Column 4. Average annual cost per pupil (enrolled) in the grades. Median, $26.41.

Column 5. Average annual cost per pupil (enrolled) in the high school. Median, $57.02.

TABLE 3.

	Column 1		Column 2		Column 3		Column 4		Column 5	
Rank	City	Ratio	City	Ratio	City	Ratio	City	Ratio	City	Ratio
1	I	70	I	30	W	40	Y	33	Y	47
2	B	52	B	19	N	36	P	31	R	45
3	Q	51	F	18	U	33	R	30	V	42
4	D	39	A	15	X	31	T	28	S	41
5	J	36	H	15	J	30	D	26	L	39
6	C	34	E	14	S	29	M	26	K	38
7	E	27	G	13	V	29	L	25	M	37
8	W	26	U	12	Q	27	X	25	X	36
9	G	25	C	11	R	26	K	24	O	36
10	X	23	D	10	F	25	Q	23	W	36
11	S	22	T	10	P	25	J	23	J	35
12	K	17	X	8	A	24	W	23	F	35
13	U	16	R	8	O	24	O	22	U	35
14	N	15	S	8	M	23	G	22	Q	34
15	L	13	J	8	B	22	A	21	N	34
16	O	12	Q	8	Y	21	S	21	P	34
17	Y	11	M	7	L	20	U	20	H	31
18	R	10	N	7	K	20	I	20	I	30
19	P	10	K	7	C	20	B	20	B	30
20	T	10	W	7	G	18	E	20	C	29
21	V	9	O	7	D	16	N	19	G	29
22	H	9	P	6	I	15	C	18	A	29
23	A	7	L	6	T	13	H	17	E	28
24	F	5	Y	6	H	10	V	16	D	27
25	M	4	V	5	E	7	F	11	T	24

EXPLANATION, TABLE 3.

Column 1. Ratio of the number of regular teachers to the number of supervisors and special teachers. In City I there were 70 regular teachers to each supervisor and special teacher. In City U, the median, there were 16. In City A, the largest city, there were only 7.

Column 2. Ratio of the number of elementary teachers to the number of elementary principals. In City I there were 30 teachers per principal. In City R, the median, there were 8.

Column 3. Ratio, in per cent, of the number of high school teachers to the number of grade teachers. In City O, the median, it was 24%.

Column 4. Ratio of the average daily attendance in high school to the number of high school teachers. In City Y there were 33.2 pupils in average daily attendance per teacher. In the median city, O, there were 22.

Column 5. Ratio of average daily attendance in the grades to the number of grade teachers. The number of pupils per teacher varied from 47 in city Y to 24 in city T. The median was 35.

TABLE 4.

	Column 1		Column 2		Column 3		Column 4		Column 5	
Rank	City	Wages	City	Wages	City	Wages	City	Wages	City	Wages
1	H	13.32	A	10.24	A	9.92	I	6.74	I	4.85
2	A	13.27	I	9.26	I	8.21	H	6.63	A	4.74
3	J	12.30	B	7.58	U	6.88	C	6.42	J	4.08
4	M	10.55	C	7.54	E	6.71	A	6.34	N	3.97
5	D	10.39	J	7.21	B	6.55	D	5.50	H	3.96
6	P	10.00	U	6.48	C	6.52	J	5.40	D	3.87
7	E	10.00	H	5.74	F	6.50	I	5.16	U	3.84
8	G	9.94	K	5.72	N	6.15	T	5.15	W	3.76
9	N	9.72	O	5.55	H	6.03	B	5.05	C	3.78
10	R	9.44	G	5.55	O	5.92	S	5.04	L	3.76
11	K	9.25	D	5.48	J	5.83	X	5.04	E	3.71
12	U	8.94	E	5.38	D	5.78	W	5.01	G	3.70
13	I	8.93	P	5.18	G	5.62	Y	5.00	B	3.63
14	Q	8.88	W	5.00	Y	5.00	U	4.95	T	3.53
15	T	8.75	Y	5.00	X	5.00	P	4.87	Y	3.50
16	L	8.75	L	4.94	R	4.93	G	4.84	X	3.48
17	X	8.00	F	4.59	W	4.93	K	4.80	F	3.48
18	W	7.50	X	4.57	P	4.60	Q	4.77	R	3.36
19	F	7.50	O	4.53	M	4.51	V	4.76	P	3.34
20	B	7.13	V	4.46	S	4.51	E	4.76	Q	3.33
21	C	6.94	S	4.43	O	4.23	N	4.74	V	3.24
22	V	6.66	T	4.20	L	4.19	M	4.63	S	3.15
23	O	6.42	M	4.12	K	4.08	R	4.55	M	2.93
24	S	6.08	R	4.07	T	3.89	O	4.52	O	2.88
25	Y	5.37	N	3.78	V	3.71	F	3.94	K	2.82

EXPLANATION, TABLE 4.

Column 1. Average daily wages of high school principals. The lack of correlation between daily wages of high school principals and the size of the city is partly due, no doubt, to variation in the number of days for which they are employed.

Column 2. Average daily wages of supervisors and special teachers. The median was $5.18.

Column 3. Average daily wages of elementary school principals. The median was $5.62.

Column 4. Average daily wages of regular high school teachers. City Y paid the median, $5.00 per day.

Column 5. Average daily wages of regular grade teachers. City B paid the median, $3.63 per day.

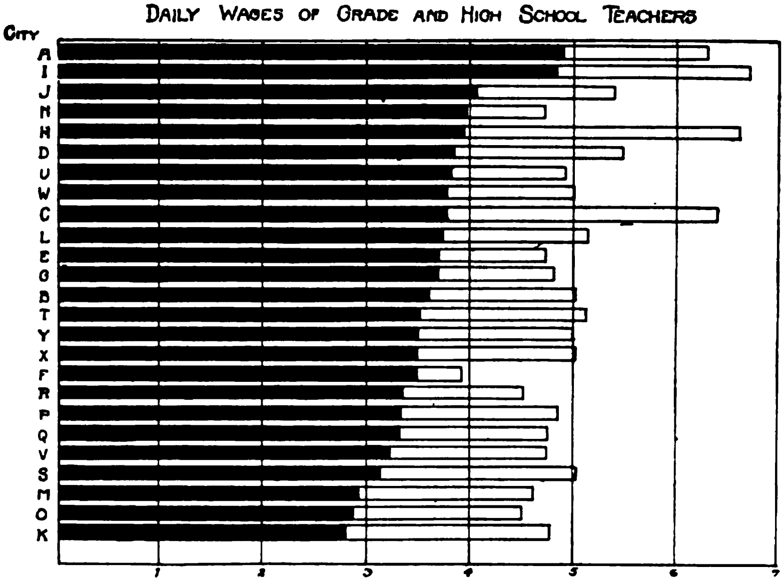

FIGURE 1.

Shaded portion represents average daily wages of grade teachers; total line, of high school teachers. See Table 4, columns 4 and 5, for corresponding data.

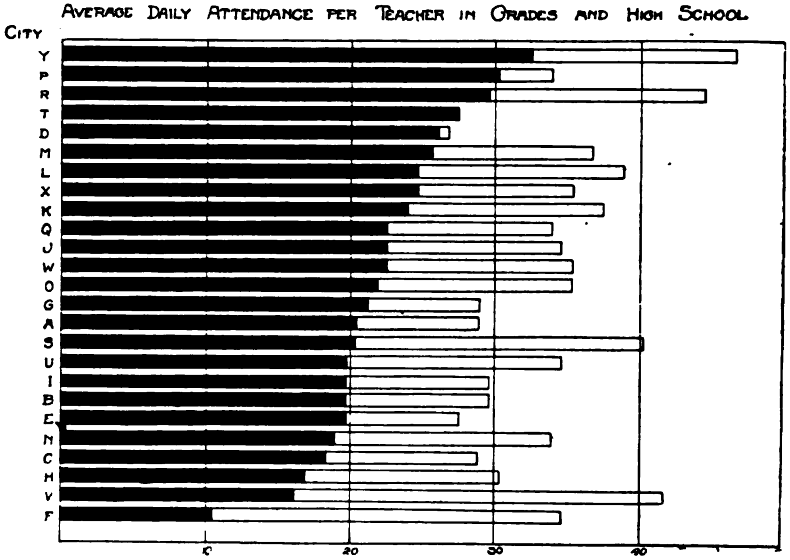

FIGURE 2.

Shaded portion represents average number of pupils per teacher in high school; total line, in the grades. See Table 3, columns 4 and 5, for data. Note that city T has a larger average per teacher in the high school than in the grades.

DISCUSSIONS AND COMMUNICATIONS

THE BUCKINGHAM TESTS OF THE GARY SCHOOLS IN NEW YORK CITY

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THERE have been several efforts to discredit the Gary plan in New York City, the most recent of which has been based upon the report of Dr. Burdette R. Buckingham, lately chief statistician to the City Superintendent of Schools. The impression has been created from the findings of this report that the Gary plan has been weighed in the balance and found wanting. That such an impression is unwarranted, however, is apparent from a closer scrutiny of the data and from a more careful consideration of several factors in the conduct of the tests which were apparently overlooked or lightly dismissed, but which are usually regarded as essential to sound scientific procedure. In fact, it would seem that no more favorable evidence of the satisfactory operation of the Gary plan under recognized inadequate facilities could reasonably be expected, even by its warmest advocates, than that enshrouded in the mass of statistics set forth in this report.

Dr. Buckingham sought to determine the relative efficiency of the Gary, Ettinger and traditional schools in New York City by measuring the improvement in general ability of seventh and eighth grade pupils as indicated by the results of two tests, assumed to be of equal difficulty, given in the regular academic subjects, in March and in June, 1915. Eight traditional schools, each in the immediate neighborhood of one of the two Gary and six Ettinger schools examined, were selected as a basis for comparison, in order to secure "a pupil population as nearly as possible similar to that in one of the two other classes of schools." The general conclusion was that the traditional schools ranked first, the Ettinger schools second, and the Gary schools third. If there were nothing at fault with the tests, therefore, the advantages claimed for the Gary plan would obviously be open to question in so far as that part of its program which deals with purely academic work is concerned.

BUCKINGHAM TESTS FAIL IN ESSENTIALS OF SCIENTIFIC TESTS

There are three essentials, however, to any truly scientific inquiry—an accurate conception of exactly what is being examined, a thorough appreciation of the conditions under which such an inquiry can be fairly conducted, and a careful and just appraisal of the data collected. In all of these particulars the Buckingham tests fall short.

Ability, in so far as it results from education, is a matter of growth during the entire school life of the child. Its attainment at any particular stage is, therefore, an index of the effectiveness of the training previously received. A test of the general ability of seventh and eighth grade pupils would thus be regarded, by most school men, rather as a test of the work of the preceding grades than of the particular grade in which the child happened to be. Otherwise, the educative process would have no significance. To assume that, after six or more years of educational experience, progress in general ability during a period of three months results solely from the training received during that period would seem, on its face, to be fallacious. Yet that is exactly what Dr. Buckingham has done. Public School 45, the Bronx, was a traditional school up to within three weeks of the first test in March and was still in process of readjustment during the period immediately following, in which the growth in ability due to the Gary plan was supposed miraculously to take place. Public School 89, Brooklyn, was also a traditional school up to within four months of the March test and was likewise undergoing readjustment. Both schools, also, had suffered far more acutely from part time before reorganization than any of the other fourteen schools tested, which meant that the children in the Gary shools had not previously had as full amount of time as other children for regular academic work. It would, therefore, seem that what Dr. Buckingham was really testing was not the Gary plan at all but simply two schools which had been operating for six or seven years under the traditional New York program and under extremely congested conditions, and which were, at the time of the tests, in a natural state of unrest due to reorganization, as compared with certain other schools which had also been operating for the same length of time under the same traditional program but which had not previously suffered so severely from part time and were not suffering from the handicaps of readjustment at the time of the tests.

UNDUE HASTE IN EVALUATING GARY SCHOOLS

Not only were the two Gary schools, however, subject to the usual unrest incident to any change in procedure, but they were further handicapped by a woeful lack of the physical equipment recommended by Mr. Wirt and generally regarded as essential to their favorable operation. This, as is generally known, was due to the fact that the money originally intended for Mr. Wirt's experiment had been spent upon equipping the Ettinger schools. In both Gary schools an annex was needed to provide the shops, gymnasiums and other facilities necessary to house the children properly and to enable the program to work smoothly. Furthermore, because of the wide public interest in the experiment, Public School 45, the Bronx, in particular, was deluged with a steady stream of visitors, whose presence in the classroom and about the building was extremely distracting. The building was also comparatively new, having been in operation scarcely eighteen months. In view of these facts, there had been little time or opportunity for perfecting the organization possible in older and more favorably situated schools and essential to the best type of classroom work. It would, therefore, seem that these tests were not only extremely inopportune, but, as an evidence of undue haste in attempting to "evaluate" the Gary schools, were scientifically indefensible.

From a purely statistical point of view, moreover, Dr. Buckingham's results are open to serious question. In the first place, he compared the average results of only two Gary schools with the average results of six Ettinger and eight traditional schools. It is obvious that in this way the difficulties of a particular Gary school would exert a far greater weight than would similar difficulties in a school in either of the other groups, where there were enough instances to counterbalance poor results in any particular case. This made it possible for Public School 45, the larger of the two Gary schools, which showed poorer results in the tests, to more than offset the excellent results of Public School 89, the smaller of the two, and thus lessen materially the average for the Gary schools as a whole. In the second place, he so weighted the results for each subject as to give undue weight in the general average to the one subject—arithmetic—in which the two Gary schools did poorest and the other schools best. It is also a question whether Public School 62, Manhattan, which is an intermediate school and which did exceptionally well in the tests, should have been included in the Ettinger group. If it had been classified as an intermediate school the general average for the Ettinger schools would have fallen considerably below that of the Gary schools.

GARY SCHOOLS, IN SPITE OF TREMENDOUS ODDS, MAKE EXCEPTIONAL SHOWING

Waiving for the moment, however, these fundamental limitations, which would seem to invalidate completely the significance of Dr. Buckingham's work, a closer examination of the data reveals the fact that, despite the tremendous odds under which the two Gary schools were tested, they made an exceptional showing as compared with other schools. If Public School 45, the Bronx, is compared with Public School 46, the Bronx, its neighbor, the only other school in the Bronx selected by Dr. Buckingham for purposes of comparison, it will be found that Public School 45 made much the greater progress during the three months covered by the test, showing an improvement in all subjects of 4.2% as compared with 0.3% in Public School 46. This fact, unfortunately, is not clearly shown in the report as published, because the identity of the individual schools is not given in the printed tables. It is in accord, however, with Dr. Buckingham's statement that "the fact that a school showed poor results at the beginning of the period compared with another school might indeed place the poorer school in a more advantageous position due to the larger opportunity which it had for improvement." For, while Public School 45, because of its peculiar difficulties, did not rank as high as Public School 46 in either test, it did excel in improvement, which, as Dr. Buckingham indicates, is the significant point in his inquiry.

PUBLIC SCHOOL 45 EXCELS COMPANION SCHOOL IN ALL SUBJECTS AND ALL GRADES EXCEPT ONE

It is interesting, moreover, to note that the superiority of Public School 45 was not confined to any particular grade or subject, as it excelled Public School 46 in all grades and in all subjects except arithmetic. It is also interesting to note that, whereas 53.8% of the pupils in Public School 45 improved in all subjects, only 47.7% of the pupils in Public School 46 so improved. This commendable showing of Public School 45 is even more striking when it is realized that it was largely overcrowded, chiefly with Italian children, whereas Public School 46 with children chiefly of American parentage, was uncongested.

PUBLIC SCHOOL 89 EXCELS ALL OTHER BROOKLYN SCHOOLS TESTED

Even more significant, however, is the case of the other Gary school, Public School 89, Brooklyn. Of the six schools tested in Brooklyn, it ranked highest both in March and in June, the traditional schools next and the Ettinger schools lowest. The per cents. of correct answers were as follows:

In March—P. S. 89 (Gary) 50.7%; P. S. 149 (traditional) 50%; P. S. 152 (traditional) 45.2%; P. S. 158 (Ettinger) 39.7%; P. S. 12 (traditional) 34.9%; P. S. 5 (Ettinger) 33.9%.

In June—P. S. 89 (Gary) 57.3%; P. S. 152 (traditional) 55.7%; P. S. 149 (traditional) 54.2%; P. S. 12 (traditional) 45.2%; P. S. 158 (Ettinger) 44.1%; P. S. 5 (Erringer) 44.1%; P. S. 5 (Ettinger) 43.7%.

While it is quite true that three of these schools excelled Public School 89 in improvement, it should be remembered that, as Dr. Buckingham points out, and as was true of Public School 45, schools poorer than Public School 89 would naturally be expected to excel it in progress. It is interesting to note, however, that the extent of improvement in none of these Brooklyn schools exceeded that of Public School 89 to a degree greater than that by which Public School 45 exceeded its companion school in the Bronx. It is also interesting to note that the per cent. of pupils who improved in all subjects in Public School 89 was not only greater than all the other Brooklyn schools combined, the figures being 60.6% for Public School 89 as against 58.9% for the other five schools, but also greater than in all the other schools tested in the city combined. For, 60.6% of the pupils in Public School 89 improved in all subjects, as compared with 60.1% of the children in the eight traditional schools combined and 59.5% in the six Ettinger schools combined.

MORE PUPILS IMPROVED IN GARY SCHOOL THAN IN ALL OTHER SCHOOLS IN CITY COMBINED

While from a scientific and professional point of view, therefore, the Buckingham tests are obviously unsound, they have really rendered the Gary schools an unintended service by demonstrating what they can do under extremely unfavorable conditions. They have shown that the Gary school in the Bronx made greater progress than its companion school, and that the Gary school in Brooklyn was not only better in both tests than all of the other Brooklyn schools, but that a larger percentage of its children improved in all subjects than in all of the other schools in the city combined.

BUCKINGHAM TESTS GRATIFYING TO SUPPORTERS OF GARY PLAN

This expert reassurance from Dr. Buckingham, taken in conjunction with Superintendent McAndrew's favorable report upon the Gary school, 89, Brooklyn, is most gratifying to those laymen who have found it difficult to understand why the academic work should suffer under the Gary plan, in view of the fact that the children have the same teachers and spend at least as much time upon academic work as under the traditional plan. Unless, therefore, something more convincing than any of the efforts that have thus far been made to discredit the success of the Gary plan in the traditional academic subjects can be brought forth by its opponents, it would seem that the Board of Education would be acting in the best interests of the children in the public schools by extending the Gary plan, with all of its other advantages, to the congested districts of New York City at the earliest possible date.

GARY'S CRITICS CRITICIZED

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Right now the Gary System is large on the educational horizon. To some educators it represents a star of hope; to others it is a mischievous comet looking for a place to flirt its troublesome tail. Gary's sinister significance may be attributed to the hugeness of the educational machinery which so far has operated equally in resisting attacks from without and in preventing changes from within. Americans with their profound respect for "big business" have sensed the dignity of a school system which could employ 20,000 teachers to teach a million children and spend $40,000,000 a year for that purpose, and so criticism with its beneficial effects has been withheld. Consequently the New York City school system has wrapped itself in a thick coat of egotism and complacently viewed its own shortcomings, if not as positive virtues at least as necessary evils.

New York has a serious school problem. She is with her present organization using all the funds available for school purposes. At the same time she is failing now to provide full time training for over 34,000 children, and this number is constantly increasing. Moreover in response to a felt demand she must devise a means for providing prevocational training in *addition* to the traditional work regularly offered. To say that she can cover the last two without changing the first is irrational. To say that she can ignore the last is to not read the signs of the times. To provide an additional $40,000,000 (as estimated by the Board of Superintendents) to relieve temporarily the part-time conditions *alone*, is asking too much.

So as a solution to this pressing problem of ways and means the Gary system was suggested, investigated and introduced as an experiment. It was here that the sinister significance of the little western town was first realized by the school system of the great metropolis.

We may assume that New York people want ultimately the best solution of the question and hence demand a fair and adequate experiment. But in performing *this* experiment as any other it is necessary to keep in mind the object, and the fact that successful results depend largely on the care and accuracy with which manipulations are carried out. Prejudice either way in those conducting the experiment is unscientific and can only tend to vitiate the results and preclude a wise decision.

The critics of Gary might be divided into three classes. There are those whose educational philosophy in appraising this system or any other, compels them to search for a definite set of values that they think are essential to the success of any school. To the degree they find these present, they pronounce the system good. This class of critics is made up from educators holding diametrically opposite points of view, as to what these essential characteristics of a successful school are, but while their final judgments of Gary may be radically different, yet the fact that they disagree on fundamentals unites them into one class.

Practical considerations compel them to attempt a careful estimation of cost, based on the amount of money spent and the value received, but they realize the futility of arriving at any conclusion in regard to this by an item for item comparison with other schools or systems unless either the amount of money spent or the value received is the same.

They realize also that Gary is not necessarily trying to do better what other schools may be doing well but that they are attempting something entirely different and as the aim differs and the machinery differs, so the product will differ.

The problem to be solved by the experiment as they see it is: Does the Gary plan contain within itself the possibilities of more adequately fulfilling the educational needs of the children, than the system which it would replace? If so, is the cost prohibitory? The answer to these questions is found by first determining to what degree the Gary schools can produce the desired outcome and by determining the relative cost.

It is evident that those who champion the traditional type of school have much the easier position to maintain as the only measuring sticks now available were devised for estimating of the products of their schools. The Courtis tests and the Thorndike and the Buckingham scales as well as the statistics of costs as now compiled, will reveal to them fairly well what they wish to know. It is quite a different matter however to determine the relative merit of the Wirt and Traditional schools from the other standpoint, since as yet, no formal methods have been devised for measuring the outcomes which they consider desirable.

The recent Survey of the Gary and Prevocational schools by B. R. Buckingham was welcomed by this class of critics as a possible means of answering these questions, and in so far as Mr. Buckingham has succeeded in doing this they consider the report valuable. However, his conclusions as well as those of Superintendent Maxwell are not wholly acceptable.

To adequately determine to what extent the Gary Schools have been able to give as effective instruction in the academic subjects as have the regular schools, which is the avowed purpose of Mr. Buckingham's Survey, it would be necessary that the following conditions exist:

1. Circumstances generally accepted as affecting the quality of work done and the rate of progress should be approximately the same at the outset.
2. Conditions affecting the work should be the same during the interval between the tests *unless such conditions are to be permanently representative of the school.*
3. The methods employed in the test should bear equally on both types of school.

Even a superficial examination of the Buckingham Report will disclose the fact that at least part of these conditions do not hold and facts not contained in the report reveal other failures to meet the requirements of a fair test.

1. *Conditions affecting results should be approximately the same at the outset.* The basis for the choice of schools could not have been *similarity in pupil-population* as Dr. Maxwell suggests, since P. S. No. 45, a Gary School, is composed of 90% illiterate Italian children while P. S. No. 46, a Traditional school, is composed of American children from well-to-do homes. This would suggest inequality to start with. Moreover the Gary schools were chosen in the first place for experimental purposes because of the acute part-time conditions and the unsatisfactory results under the traditional plan.

2. *The conditions for work during the interval between the tests should be the same.* Investigation shows that this was not true. The Gary schools were in a constant turmoil due to the fact that they were just

starting a system radically different from that to which they were accustomed. This change in method and in organization, and lack of proper facilities, such as lockers to take the place of individual desks, all tended to aggravate the situation. Pupils and teachers alike needed time to become adjusted to the new règime, and a constant horde of critical visitors did not make the situation easier. On the other hand the Traditional schools were free to progress, undisturbed and uninterrupted. To measure the schools under such circumstances without providing a handicap for the Traditional type is to assume that this upheaval and commotion is to be a permanent feature of the organization—an assumption that is unwarranted.

3. *The methods employed should bear equally on the different types tested.*

Two Gary schools were opposed to eight Traditional schools, arbitrarily chosen. Is the average of these eight Traditional schools sufficiently representative of the New York Schools to make their *average* (each school representing 12½%) oppose the average of the two Gary schools (each representing 50%)? From the data given in Table III, the March tests, it is evident that Gary school No. 45, *up to that time a Traditional School*, tested lower than seven of the Traditional schools. It is clear then that the lowest Gary school affected the Gary average to a much greater degree than the lowest Traditional School affected the Traditional School average. In the first instance the low mark counted 50% while in the last it was only 12½%.

Consequently to correctly estimate the *possible* progress in the Gary system it would be necessary to compare individual schools. In that case one might read from the data the following:

Gary School No. 89 in spite of unfavorable conditions for work

1. Improved in every subject.
2. Its average progress in the five subjects tested was greater than that of *four* of the traditional schools.
3. It excelled the Traditional Schools in actual marks as follows:

In	Arithmetic	it excelled	1	Traditional	School.
"	Spelling	" "	4	"	Schools
"	Geography	" "	6	"	"
"	History	" "	7	"	"
"	Grammar	" "	7	"	"

4. It excelled the Traditional schools in progress by subjects as follows:

In Arithmetic it excelled 3 Traditional Schools.
" Spelling " " 3 " "
" Geography " " 6 " "
" History " " 7 " "
" Grammar " " 3 " "

Another point that should be considered is the character of the subject-matter of the test. Mr. Buckingham asserts that those who test well in memory questions also test well in thought questions. The validity of this assumption could be better maintained by actual figures as this point is generally discredited.

A further question might be raised as to whether these tests could determine progress. The interval between them was three months. During that time of course the seventh and eighth grades both studied geography, history, arithmetic, grammar and spelling, but certainly they were not both studying in the same field of these subjects. In other words either the work covered by the test would be that of the seventh grade in which instance the eighth would have had it the preceding year but not the preceding three months, or it would be that of the eighth grade in which instance the seventh would not have had it at all. In either instance the test would not cover the work of the entire group, and it is difficult to see in what way a class working for three months in the History from the Civil War to the present time would be better able *because of that work* to say "what colony in America was founded by English Catholics."

In the light of these facts is Mr. Buckingham justified in concluding that "the evidence afforded by this report is unfavorable to the defense"; or has Dr. Maxwell ground for his conclusion, "that it raises a strong presumption against the general introduction of the Gary system to this city"?

Taking these facts into consideration one might well question the scientific attitude of the men who conducted this survey and in so far as they have allowed personal feelings to enter into their conclusions, they have identified themselves with the 2nd class of Gary critics who are characterized by partisan feeling. This class attempts to pre-judge the results of the experiment, and to so interpret facts that they tend to prejudice opinion. By this attitude they have fortified themselves against argument and attempt to demonstrate only that of which they were already convinced.

It is doubtless unfortunate for the New York school system that some of the school officers, superintendents, principals and teachers have put themselves on record as opposed to a system which has been introduced *as an experiment* in their schools and which from the point of time alone could not possibly be complete so soon. Some of them admit that the Gary plan is yet in an experimental stage and in the same breath appear to assume the position that the data is all in.

There is another class of critics who ignore the fundamental issues entirely but pass judgment by comparing isolated features of one system with seemingly similar features of another.

They fail to consider that any really good school must be greater than the sum of its parts and that to attempt to evaluate each part without its proper setting, is misleading and can result only in a distorted conception of the entire process.

The issue should stand or fall on its educational and economic values *as a whole* and not be subject to possible condemnation by the "playing up" of possibly unessential features of the plan, as has been done in the case of the religious feature; or by attempting to prove that it is necessarily a mere money saving scheme devised by close-fisted politicians at the expense of the child. If the child's day was shortened or the facilities lessened, one might entertain this thought but evidence points to the contrary. Those who argue this forget that a large part of the question is to save that they may spend.

On the other hand some try to prove that it is an extraordinarily expensive proposition by ignoring comparative values. Illustrative of this latter type of criticism may be mentioned Superintendent Spaulding's attack on the cost of the Gary System which appeared in a recent number of School and Society.* His conclusions were based on a per capita cost comparison with Minneapolis, and have been adequately refuted by Mr. Nudd,† who styles the attack "a procedure which is statistically unpardonable, since it leaves out of consideration entirely the question of comparative values."

That it is difficult to find a basis for the evaluation of a school system which departs so radically and in so many particulars from the accepted standards of school administration as does Gary, may readily be conceded, but this difficulty in no way should license one to cloud the issue by drawing conclusions from unwarranted data.

An attempt to estimate the relative economy of two types of organizations may result in a per capita cost comparison of each item. This may or may not reveal true conditions, as it may simply represent the comparative generosity or economic necessity of the school boards, or an inequitable distribution of funds.

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* School and Society, November 6, 1915.

† School and Society, January 22, 1916.

Trying to determine to what extent seemingly similar items may be used as a basis of comparison with due fairness to both sides, we suggest a possible utilization of Mr. Giles' tables (appearing in this issue), which contain statistics from the twenty-five largest cities of Indiana. In these tables are included the usual items found in the official reports of the city superintendents to the state department, so arranged as to be available for administrative purposes. A cross-section of Mr. Giles' tables applied to certain of the debated points, might assist in the critical discussion that is now in progress. The following tables suggest the ease with which statistics lend themselves to misrepresentation when considered apart from other factors, and when utilized in some other capacity than that for which they were planned.

Showing Gary's Rank Among Indiana's 25 Largest Cities

	Gary	Rank	Median	Highest	Lowest
Ratio of total average daily attendance to estimated population	16.2%	2	13.8%	20.9%	9.2
Ratio of total average daily attendance to total enrollment	76.3%	20	83.2%	95.8%	65.3%
Ratio of the average daily attendance in high school to that in grades	10.5%	24	17.7%	26.2%	7.5%
Ratio of total expenditures for high school to total expenditures for grades	13%	25	35%	58%	13%
Ratio of amount paid for teaching in high school to total cost in high school	87%	6	79%	94%	53%
Ratio of amount paid for teaching in grades to total cost in grades	54%	25	78%	90%	54%
Ratio of average daily attendance in high school to number of high school teachers	20.4	18	22	33.2	10.5
Ratio of average daily attendance in grades to the number of grade teachers	30	18	35	47	24
Average daily wage of elementary school principals	$8.21	2	$5.62	$9.92	$3.71
Average daily wage of supervisors and special teachers	$9.26	2	$5.18	$10.24	$3.78
Average daily wage of high school teachers	$6.74	1	$5.62	$6.74	$3.94
Average daily wage of elementary school teachers	$4.85	2	$3.63	$4.94	$2.82

The conclusions present an interpretation of the items when considered in connection with other facts, and are an attempt to bring into relief a few of the outcomes that are emphasized by the Gary schools, namely (1) the hold the school has on the pupil; (2) specially trained teachers for the elementary as well as the high school child; (3) a more equitable distribution of funds between the elementary school and the high school.

1. The average daily attendance at Gary in proportion to the enrollment is low, due in part at least, to the fact that throughout the year the older children are encouraged to accept positions when offered, returning to the vacation schools to make up their work in summer. Only 76.3% of those enrolled are in daily attendance, yet only one other city of the twenty-five tabulated has a higher daily attendance in proportion to their population. Would it be reasonable to conclude from this data that the Gary schools *are* making a strong appeal to the people of this industrial city?

2. Only 54% of the total expenditure for the elementary schools of Gary are used for teaching purposes and yet there is but one other city of the twenty-five, namely Indianapolis, that has a higher salary scale for elementary teachers, supervisors or principals. Likewise in the high schools only 87% of expenditures are for teaching, yet Gary's high school teachers are the best paid in the state despite Mr. Spaulding's statement "that the teacher salaries in Gary are low." Might one be justified in saying that the two-school plan does economize in the number of teachers? That this saving is not at the expense of normal sized classes is evident from the fact that the average number of pupils per teacher in the high schools is 20.4 and in the grades is 30.

3. Mr. Spaulding reminds us that "it costs about twice as much per high school pupil as per elementary pupil," but we can readily see that Mr. Wirt does not allow that condition to exist in Gary however it may at Minneapolis. The proportion of expenditures in the high schools to that in the elementary schools ranges in Indiana from 58% to 13%. The average daily attendance in the high schools of Gary is 10.5% of that in the grades. The expenditures for high school is 13% of that of the elementary school. Does not this seem to be a more equitable division of funds than is usually obtained?

BOOK REVIEWS

WILLIAM H. MAXWELL. *Seventeenth Annual Report of the City Superintendent of Schools.* Survey of the Gary and Prevocational Schools. 1914–1915. New York, 1916. Pp. 61.

This seventeenth report of the superintendent of the New York City schools is a report of an investigation conducted by B. R. Buckingham in attempting to ascertain the progress of pupils in the ordinary elementary school subjects in the three types of schools: the Gary schools, the pre-vocational schools, and the schools of the common New York City type. Sixteen schools were tested; two of the Gary type, six of the pre-vocational type, and eight of the old New York City type. The pupils tested were in grades 7a, 7b, 8a, and 8b of these schools, and numbered approximately 10,000. The tests were given in the five elementary school subjects; arithmetic, spelling, geography, history, and English grammar.

Two series of tests were given, one in March and a second one in June. The questions used in the two series were not the same, but were of approximately the same degree of difficulty, as shown by preliminary testing. The answers which were to be accepted for each question in each subject were stated, and each answer was graded either wholly right or wholly wrong. The teachers did most of the grading, but their judgments were checked by the investigator and his assistants; samplings of the teachers' gradings being taken and a re-rating being made whenever as many as 3% of the gradings of any teacher were found to have been incorrectly made.

The scorings were made in percentages of the total number of questions answered correctly. The amount of improvement is based upon the number of pupils whose scores in the second tests were better than in the first tests. The percentage which the number gaining is of the total number taking both tests denotes the improvement of any grade or school.

The measures of improvement in each of the types of schools are calculated in three ways: first, on the basis of the increase in the number of correct answers; second, on the basis of the percentages of the total which the improvement represents; and third, on the basis of the ratio of the actual improvement to the improvement which would have been necessary for a perfect score in the second test. The results are, in general, the same by all of these methods, i. e., the comparative standing of the three types of schools is unchanged. The traditional schools rank first, the prevocational schools second, and the Gary schools lowest.

"Meanwhile, the Gary plan is on the defensive," says the author. They are on trial. Whether or not they would plead guilty before such evidence as can be derived from the tests that Buckingham has used is interesting material for speculation. The reviewer does not believe that they would or should. But the discussion of the applicability of the tests to the Gary system will be left to those more intimately acquainted with the actual working of the Gary plan, its aims and its outcomes.

The statistical methods employed in the study are interesting, to say the least, but there are a number of questions which many people will wish to have answered before they accept the conclusions based upon them. Did the traditional schools represent "a pupil population as nearly as possible similar to that of the two other classes of schools" (p. 5 of the Report), or was "a traditional school without part time, having children of American parentage compared with a largely overcrowded Gary school with chiefly Italian children"? Which is the fairer method: that of lumping the results in eight schools of one type against the combined results in two or six of other types, or that of showing the results of each school separately? By the latter method the best Gary school ranks above seven of the traditional schools in history, above six in geography, and above three in each of the other subjects. It is hardly fair to draw conclusions from the tests in the other so-called Gary school if, as has been declared since the investigation, this school was not changed from the traditional to the Gary type until after the first series of tests had been given. In the school, or schools, of the Gary type there had not been sufficient time for the new system to begin to operate smoothly, and the work was continually interrupted by visitors.

The author of the report generously appends this statement, "Extenuating circumstances may be urged, and rejoinder may be made; but the facts remain unchanged." He should be allowed to preserve his "facts" by all means and enjoy them, if possible, with Superintendent Maxwell; but it would be unfortunate if people in general should accept uncritically his interpretations.

JOSEPH HENRY JOHNSTON.

University of Illinois.

F. M. Leavitt and Edith Brown. *Prevocational Work in the Public Schools.* Boston: Houghton, Mifflin Co., 1915. Pp. 245. $1.00.

This very readable book is an outgrowth of the author's interested observation and study of prevocational work as carried on in such cities as Boston, Louisville, Milwaukee, Kansas City, and Seattle, supplemented by three years' experiences with an experimental class conducted in the University of Chicago, together with an intimate knowledge of the prevocational classes for over-age boys conducted in the Lane Technical High School of Chicago, through the generous co-operation of the Principal—Mr. William J. Bogan.

The contents of the book are suggested by such chapter headings as,

(a) The nature and purpose of prevocational education,

(b) Prevocational education as a natural development of the school system,

(c) The inauguration of prevocational classes,

(d) Appropriate subject matter for prevocational classes.

In addition to certain valuable reference lists, the latter part of the book contains a detailed statement of typical shop equipment, and also the actual outlook possible with such equipment.

The several chapters devoted to a discussion of the course of study in physiology and hygiene, history, science, English, and mathematics, are both interesting and suggestive—the ones on hygiene and history being especially satisfactory because the authors depart from the orthodox stereotyped material ordinarily recommended.

However, we may entirely miss the vast importance of prevocational schooling as an integral part of a democratic scheme of education if we accept too literally the limitations with reference to the selection of the pupil group that the text often seems to imply. The repeated emphasis (pp. 4, 33, and 42) on the fact that prevocational grades are intended primarily for the accommodation of the over-age and retarded pupils who have not succeeded in doing the work of the traditional school, is hardly consistent with the broader point of view developed in the early chapters of the book to the effect that efficiency in our industrial life can hardly be insured by recruits who feed into it as a result of poverty, inexperience, and lack of personal initiative, and that, therefore, we must provide for our future workers an education as complete as it can be made in all its features—general, technical, inspirational, and recreational.

In its broadest implications, the demand for prevocational training is a reaction against an extended bookish education. When we recognize the fact that in a city like New York, there are approximately twice as many adolescent pupils in our elementary schools as there are in our high schools, it should be obvious that a democratic scheme of education should not make the completion of an eight-year course of study, and admission to high school, conditions precedent to securing the variety of experiences that the versatility of our pupil group demands. Just to the extent that we provide a differentiated course of study in our seventh and eighth years, concurrent with the advent of adolescence, we are providing a scheme of education which is essentially democratic because of its adaptability to the varying needs and abilities of the pupils.

Until recently, our educational scheme has been influenced, if not controlled, by certain fatuous assumptions concerning equality of abilities, similarity of inclination, and identity of prospective social destination.

It is true that our elementary school system has been, and is, definitely prevocational with reference to pupils entering professional life, and to some extent, to those entering commercial life. But until recently, little attention has been given to the adolescent pupils of our upper grades whose inclinations, abilities, and prospective placement among the toilers of the world, demand that we provide within the limits of the elementary grades, a type of experience in the elements of fundamental trades which will enable these pupils to discover whether or not they are fitted to do industrial work, and which will also enable them to gain an insight into conditions of industry under which work must be done.

Those of our readers who are interested in this vital movement of education, will find in this volume an adequate and scholarly treatment of the subject. W. L. ETTINGER.

New York City.

MEYER BLOOMFIELD. *Youth, School, and Vocation*, with an introduction by Henry Suzzalo. Boston: Houghton, Mifflin Company, 1915. Pp. 273.

In the introduction to this book, Dr. Suzzalo defines the movement for vocational guidance as "another stage in the effort to equalize opportunity for the children of our Commonwealth and to perfect our social efficiency." This movement has made itself felt in our public schools, in the social and charitable institutions of our larger cities, and in the work of librarians and other advisers of youth. It has received recognition by chambers of commerce, by employers of labor, and by thoughtful men who can look back upon the years of undirected effort in their own lives while searching about for the career in which they have found success.

Mr. Bloomfield has brought together the valuable experience of his own special field of work and his investigation of this problem, in a volume that represents a fairly complete survey of the vocational guidance movement up to the time of its publication. The city of Boston, in which the first National Conference on the subject was held in nineteen hundred ten, furnishes a greater part of the material discussed in the first three chapters. From this description of the experience of that city, other localities undertaking the organization of a department of vocational guidance will find much valuable suggestion and helpful comment. The experiments in Cincinnati and New York City illustrate what can actually be accomplished by organized effort.

A few years ago Mr. Bloomfield gave some time to a study of this problem in both England and Germany. The methods of guidance employed in England are suggestive of what may be applied to similar efforts in this country, but the most significant of these is called "health guidance." In this particular chapter the need of correlating the work of employment health inspection with the vocational needs of working children is strongly urged as a necessary factor in organized vocational guidance. The closing chapter on the social gain through vocational guidance presents the ideal of service through vocations.

An appendix to this book contains an abundance of material of valuable interest to the student of the problem and especially to the worker in the field. Here will be found schedules, questionnaires, records, specimen talks on vocations, outlines for the use of schools, and a selected bibliography.

This is a book which every student of Vocational Guidance should have at hand as a working manual.

JESSE B. DAVIS.

Grand Rapids, Mich.

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EDITORIALS

Institutional Testing

As Superintendent Maxwell says in his introduction to Mr. Buckingham's Survey of the Gary and Prevocational Schools of New York City, this study is a document of unusual interest and importance. For the most part our recently organized and refined instruments for quantitative testing of educational achievement have been limited in application to special fields, special subjects, even special grades of advancement in special courses in recognized subject matter and perhaps one might say chiefly to intellectual mechanics and manual skills, such as handwriting, the mechanics of word, phrase, and sentence reading, the mechanical rapid computation exercises (called arithmetic) and spelling of graded series of selected words. There have been a few attempts to compare achievements resulting from distinguishable methods of treating the same subject, and a few studies purporting to test curriculum achievements, academic and vocational for example.

It is a very different matter when one leaves these special fields and essays the construction, application, and evaluation of results of institutional tests. An institution, especially an educational institution, is a more complex affair,—if it is anything more than a mere mechanism—than even an individual. This accounts, doubtless, for the extreme caution which Mr. Buckingham has shown in trying to define just what significance his study has. Despite his precautions, however, his report has fallen like a bomb upon the educational world.

The justification for giving practically an entire issue to some phases of this problem, and most of it to this particular study, is just because the study is taken by the author himself and by his critics as being in reality not a local but a general question. On page 35 Mr. Buckingham writes:

"No educational investigation of which I have any knowledge has been carried out upon such extensive returns. If its value were limited simply to the question at issue regarding the experimental schools of this city, the labor expended might indeed prove to have been abundantly justified. But the value of what has been done is greater than the determination of this local question. The material gathered will, when further analyzed, set up standards of attainment which may be used everywhere throughout the country, and may help to solve many problems. It is in this more general aspect of the investigation that my own personal interest lies. Speaking as an investigator, it is a matter of indifference to me which type of school proves to have been able to do the best work. It is, however, a matter of great importance to me that the work should have been done in a workmanlike manner and that the results should have a wide and useful application."

All Sides of the Issue to be Dealt With

Lest this issue of the journal may appear to the unprejudiced reader as all on one side we are glad to announce that different aspects of the question of Gary and modifications of Gary are to be discussed in subsequent issues. Indeed several competent contributors from other points of view than those taken by the authors of the present discussions were to have presented views in this issue. Unfortunately copy had to go to press before they were received.

C. H. J.

New York and Gary

No one doubts that an adoption by New York City of even a modified Gary Plan implies a fundamental reorganization of the typical public school system from the points of view both of the principles of educational administration and of the underlying educational philosophy.

Conservative schoolmen throughout the country will understand and fully appreciate (and applaud) the attitudes of associate superintendents Shallow and Ettinger in their opposition to the adoption of the Gary Plan. Suppose one should be impressed at Gary, as indeed perhaps the majority of good visiting teachers and administrators are impressed, to the point of condemnation, with a certain disregard for "school discipline" and "classroom routinization" in the ordinary sense of these terms, with a conviction that pupils must necessarily be distracted by such a wide range of unusual activities, and with their evident deficiency in the three R's—what must one say? Either that Gary's peculiar merits lie, if anywhere, in the literal exterior features of duplicate school (not merely double-session) economy plan, self-supporting shops, and freedom from costly inspectorial supervision, or that the Gary plan and Gary operations indicate beneath the surface an educational purpose and method foreign to the educational purpose and method which controls the operation of the typical New York City traditional school. Not seeing beneath the surface the measurable and comparable features are taken to be these surface features.

THE FERNANDEZ-SHALLOW ISSUE

Miss Alice Barrows Fernandez (New York Tribune, April 25th, 1915, later reprinted) points out what she considers numerous inaccurate statements of fact and more misleading implications in the unverified conclusions contained in Superintendent Shallow's adverse report upon the Gary schools (reported to the Board of Education, March 24 and again April 14, 1915). Miss Fernandez answers arguments and points out errors convincingly, basing her statements upon a six weeks study, on the grounds, of the Gary schools, and upon her conviction that she has grasped a fundamental distinction between the nature of local reform movements and that feature peculiarly embodied in the Wirt administrative system and educational philosophy. "Those who miss the spirit will find weaknesses." Thus she finds that Mr. Shallow, in this instance, can only, from his different point of view, sanction those external features of the Gary plan closely resembling characteristic features of the traditionally "good school." She, from her new vantage-ground of insight into a new school purpose and new pedagogical method, thinks she sees how wholly on the wrong clue Mr. Shallow is, for example, in his assumptions as to the nature of vocational and of liberal education. Mr. Shallow, conceiving the two as both already clearly distinguishable and independently dispensable, has no special difficulty in approving, indeed does approve the Ettinger plan.

THE ETTINGER PLAN

For Wirt you can't arbitrarily and suddenly "add" vocational or prevocational education to an unreorganized elementary school curriculum at any special point we may select for such a fundamental round-about-face. Genuine vocational educational must be bred in and grow up through the whole system of school years from the first to the last. Neither is the ordinary old "academic" work nor the new "industrial" elementary curriculum of instruction based upon a tenable educational philosophy. We need, according to him, a new philosophy of schooling and a new—a bran new curriculum. We shall also require new schedule manipulations, new kinds of class examinations, new play organizations, new co-operative manual work, and a new and more democratic organization and management of auditorium and similar pupil-body co-operative educational activities. Now Dr. Ettinger (as Mr. Shallow) does not experience the same theoretical or practical difficulties in "adding" a scheme of vocational (or "prevocational") training at any point in the school course where strategically it is convenient and where undoubtedly it is needed and where psychologically the pupils and paternally the parents as advisers and the teachers are able to decide upon and work out such a scheme of training. The sections chosen by Ettinger restrict the work to the seventh and eighth grades.

The entire system of prevocational work as outlined is unique in that it is an intensive experiment in differentiated work in a few of the schools of New York City. Although there are some features of the plan which are copied from other systems, some are decidedly original. The one of vocational guidance by vocational experience through rapid successive passage from one short concentrated curriculum to another (always with a shop attached) is probably the most unique feature. All pupils are given a taste of exercises and trainings characteristic of many different vocations. Other systems have been devised to give every pupil opportunity to elect a particular kind of vocational or prevocational work. This system seems original in requiring everyone to subject himself for a time successively to differently designed curriculums—all definitely focussed. The Ettinger plan aims thus at "prevocational education," actual "trade-preparatory" work, general "vocational guidance," while pointedly seeking at the same time to accomplish the essential "academic" minimum.

A negative feature of the plan is that vocational training is not to be confined to "repair work to reduce the cost of maintenance"—a weakness and inadequacy of the Gary Plan. Dr. Ettinger also states that, although students should not enter the shops before the age of twelve, visitation of the shops by the children should be provided for. Another feature is the co-operation of the teachers of academic subjects with the teachers of the shop work. The academic teachers are required to visit the shops and to keep in touch with what is being done, and arrange the academic work so as to have it correlate with the shop work. A circular of information concerning the curriculums of prevocational training as distinct from the traditional academic courses, giving a survey of conditions relating to the choice of vocations and the meaning of choice, reasonable salary expectations, etc., has been prepared for distribution to parents of the pupils. It is admirable. There is further a plan for licensing prevocational teachers. It requires certain standards of shop and practical knowledge, the minimum being three years of practical work. There is too a provision of organization of teachers in shop subjects.

We hope to have later a more adequate account of this scheme. We call attention thus briefly to it as it to some serves as an illustration of a sort of compromise between the clearly opposed alternatives discussed at length in this issue.

C. H. J.

A Selection from a Report of a Distinguished Visitor

"I was taken, like every other visitor, to the class-rooms, and there left more or less to my own devices. I was still very inexperienced, both in the theory and the practice of teaching, relying chiefly in such things upon my memory of my own school time, and I was therefore very little fitted for a rigorous examination into details of method and into the way they were connected to form a whole system. The latter point, indeed, was neither clearly thought out, nor was it worked out in practice. What I saw was to me at once elevating and depressing, arousing and also bewildering. My visit lasted only a fortnight. I worked away and tried to take in as much as I could; especially as, to help me in the duties I had undertaken, I felt impelled to give a faithful account in writing of my views on the whole system, and the effect it had produced on me. With this idea I tried to hold fast in my memory all I heard. Nevertheless I soon felt that heart and mind would alike come to grief in a man of my disposition if I were to stay longer with ———, much as I desired to do so. At that time the life there was especially vigorous; internally and externally it was a living, moving, stirring existence, for, ———, commissioned by the ———, had come to examine thoroughly into ———'s work.

"* * * * The pupils were distributed amongst the various classes according to their proficiency in the subject in hand, so that the whole body of pupils was redistributed in quite a distinct division for each subject. The advantage of this contrivance struck me as so undeniable and so forcible that I have never since relinquished it in my educational work. * * *

"The results of the arithmetical teaching astounded me, yet I could not follow it into its larger applications and wider extent. * * *

"In physical geography, the usual school course, with its many-colored maps, had been left far behind. * * * *

"In natural history I heard only the botany. * * These lessons, which were in this way made so attractive, and whose merits spoke for themselves, showed, however, when it came to practical application, an unpractical, I had almost said, a self-contradictory aspect.

"* * * * All this lay dark within me, its value unrecognized even by myself. But my intellectual position tended to become more settled by passing through these experiences. As to my state at the time, I have, as accurately as may be, described it above, as at once exalted and depressed, animated and dull. That ——— himself was carried away and bewildered by this great intellectual machine of his appears from the fact that he could never give any definite account of his idea, his plan, his intention. He always said, 'Go and see for yourself' (very good for him who *knew* how to look, how to hear, how to perceive); 'it works splendidly.' * * *

"I left ——— in mid-October with a settled resolution to return thither as soon as possible for a longer stay."

The above quotation is not from any of the many distinguished expert professional visitors commissioned by their city school boards of education to visit Gary, Indiana. It is but a fragment from Froebel's first visit to Pestalozzi's school at Yverdon at the end of August, 1805.

C. H. J.

BOOK NOTES

Ernest J. Ashbaugh. *Handwriting of Iowa School Children.* Bulletin of the State University of Iowa. Extension Division Bulletin No. 15.

This bulletin contains a study of the handwriting of school children in the elementary schools of Iowa. The rural schools and five groups of cities are included in the study; the groupings of cities being made on the basis of population.

The results of the study show that there is no appreciable difference between the writing of rural children and city children of the same grade. Improvement in handwriting is rather uniform from grade to grade, especially after the second grade. The Iowa children write slightly better than the children of the average large city; and the writing of the eighth grade is of such a quality as to satisfy the "ordinary demands of every day life outside the school," based on the requirement of the Muncipal Civil Service Commission of New York City.

Leonard P. Ayres and May Ayres. *Health Work in the Public Schools.* Cleveland, 1915. Cleveland Educational Survey, Leonard P. Ayres, Director. Pp. 59.

The very recent history of the beginning and development of medical inspection and medical treatment in the public schools is briefly told, and the present situation is pictured. Cleveland has been the leader in this work, and probably provides more adequately for the health of its public school pupils than any other city of the United States. The work of the 86 school dispensaries and clinics is highly commended. One fault is pointed out, the tendency to neglect the vaccination of the pupils. It is recommended that the teachers, principals, and parents be held strictly responsible for this important work. Here, as in other sections of the survey report, the division of authority between the director of schools and the superintendent is commented upon unfavorably. It is recommended that the official in charge of health work be responsible to the superintendent alone.

Leonard P. Ayres. *Child Accounting in the Public Schools.* Cleveland, 1915. Cleveland Education Survey, Leonard P. Ayres, Director. Pp. 68.

The census figures are found to disagree materially with the enrollment figures of the schools. It is recommended that a permanent Division of School Census be established, in order to unify the work of child accounting. The work of the truant officers should be directly connected with this Division. At present the compulsory attendance laws are not inforced. The amount of elimination and retardation is not nearly so large in Cleveland as in many other large cities.

Frank W. Blackman and John Lewis Gillin. *Outlines of Sociology* New York, 1915. The Macmillan Co. Pp. viii, 586.

This co-operative work is an elementary text-book in sociology. It is intended for use in college classes, in clubs interested in social questions, and in meeting the demands of general readers who desire a comprehensive treatment of the subject.

Frank P. Bachman. *Principles of Elementary Education.* New York, 1915. D. C. Heath & Co. Pp. viii, 305.

This book establishes some of the principles of elementary education and applies them to the instruction and administration of the elementary school. Teachers and students, interested in elementary education, will find it a valuable book.

Franklin Bobbitt. *What the Schools Teach and Might Teach.* Cleveland, 1915. Cleveland Education Survey, Leonard P. Ayres, Director. Pp. 108.

1. "The object of all trainingis to prepare for adult life."
2. "The basis of all training is participation in the actions of life."

These are the principles laid down by the author and consistently followed in his summary of conditions in Cleveland in regard to the teaching and in recommendations for changes in emphasis and method. Each of the public school subjects is considered in turn, and suggestions are made as to their treatment. Cleveland is not presenting a sufficiently diversified program of studies to meet the widely varying needs of the many elements of its population. The subjects that it does offer are presented in a way more suitable to an adult than to an ordinary public school pupil.

Geography: A Report on a Preliminary Attempt to Measure Some Educational Results. Bulletin No. V of the Department of Educational Investigation and Measurement. Boston Printing Department. 1916.

Tests have been devised to discover the knowledge of pupils of the geography of Europe, and of the United States; and the pupils' ability to reason from geographical data. The tests were given to 8th grade pupils, 3rd year high school pupils, and 1st year normal school pupils in Boston. The conclusions from the test results are that geographical information should be more restricted in order to secure, on the part of the pupil, the familiarity with such geographical knowledge as he does have, as is necessary for him to reason intelligently from it.

Elementary school pupils rank, on the whole, somewhat better than high school pupils in the tests.

Earle Clarke. *Financing the Public Schools.* Cleveland, 1915. Cleveland Education Survey, Leonard P. Ayres, Director. Pp. 133.

A study of expenditures for educational purposes in eighteen of the leading cities has been made and the ranking of Cleveland in his group, as well as its gross expenditure, has been worked out. While Cleveland ranks rather high in total city expenditure and fourth in the expenditure for the physical equipment (buildings, fuel, etc.) it ranks fifteenth in the group in expenditure for the more strictly educational work. It is especially low in salaries paid to elementary teachers, by far the largest item of school expenditure. Its elementary classes are comparatively large while its high school classes are rather small. The high schools seem to be receiving more than their proportional share of the public money. The facts presented will be valuable for the study of conditions in other cities as well as Cleveland.

Abraham Flexner and Frank P. Bachman. *Public Education in Maryland.* A Report of the Maryland Educational Survey Commission. The General Education Board. New York, 1916.

The organization of the Maryland school system is strongly approved by the survey staff. The very unsatisfactory educational results which are being accomplished are traced to the faulty operation of the system. Politics of a bad sort pervades the educational system from the State Board to the one-room rural school. It is not more money or a fundamental change in the type of organization of the system that is needed to secure better results, say the surveyors, but a divorcing of the educational system from politics.

Shattock O. Hartwell. *Overcrowded Schools and the Platoon Plan.* Cleveland, 1916. Cleveland Educational Survey, L. P. Ayres, Director. Pp. 77.

The proposed platoon system, or modified Gary plan, is a scheme devised to utilize more completely the building and equipment of the schools, avoiding the congestion which is often found at present, and at the same time providing better instruction and conditions of study. The school subjects are classified as regular and special. Special subjects are taught by special teachers in special rooms. Each grade room is sufficient to accommodate two regular classes, each one half of the day; the special room providing for them the other half of the day. One large school in Cleveland has experimented with the plan, with apparent success. Under this plan the pupils will be housed more easily, but the most important effect of the scheme, according to the author of the report, will be to provide conditions favorable to better instruction.

EDWARD CARY HAYES. *Introduction to the Study of Sociology.* New York, 1915. D. Appleton and Co. Pp. xviii, 718.

This book, an elementary text-book, organizes the entire field and presents a comprehensive view of the various major sub-divisions and problems of sociology. It will prove helpful in those courses where the instructor wishes his students to become acquainted with a system of thought in this field.

GEORGE E. JOHNSON. *Education Through Recreation.* Cleveland, 1916. Cleveland Education Survey, Leonard P. Ayres, Director. Pp. 94.

While Cleveland is well equipped with plants and teaching force for recreation in its schools, as compared with the majority of large cities, it has not by any means properly organized the recreational activities or utilized them properly for educational purposes. In the author's opinion, these activities can be organized for educational ends (physical and social) without lessening the pupil's enjoyment of his play. At present, too much emphasis is put upon the training of a few, to the neglect of the many, and in general the provision for high school pupils, to the neglect of the elementary school pupils.

WALTER S. MONROE, Director. *Report of a Survey of the Public Schools of Leavenworth, Kansas.* Bureau of Educational Measurements and Standards, Kansas State Normal School, Emporia. 1915.

This report is, in the main, a survey of instruction; each subject being taken up in order and discussed at length. The Courtis Standard Arithmetic Tests and the Thorndike and Ayres handwriting scales were used in an examination of the work in these two subjects.

The space devoted to Buildings and Equipment, Expenditures, Teaching, Staff Administration, and Supervision is very limited.

Under the head of Reorganization of Secondary Education, the director of the survey discusses some proposed modifications and enrichment of the curriculum offerings; but, contrary to the custom of most of the more recent surveys, omits any discussion of administrative reorganization.

CLARENCE ARTHUR PERRY. *Educational Extension.* Cleveland, 1916. Cleveland. Educational Survey, Leonard P. Ayres, Director. Pp. 115.

Perry tells just what has been done in Cleveland towards extending the advantages of the school equipment to the people, and he says directly what further should be done. Much more extensive use has been made of the schools during the last year than in the year preceding, and the prospects for the future seem bright. Perry sees in this widening out process a means of giving the school pupils and their parents a wholesome form of recreation and entertainment and of enlisting the co-operation of the city in the interest of the schools.

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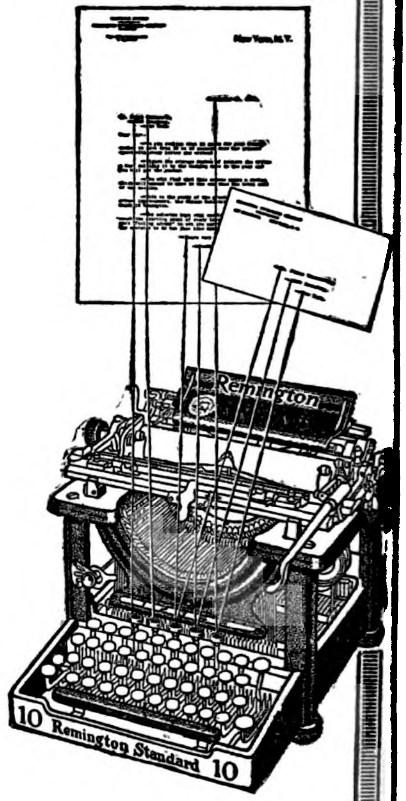

NOTES AND NEWS

Conference on Educational Measurements

THE third annual conference on Educational Measurements was held at Indiana University on April 14 and 15 under the direction of the School of Education.

The two previous conferences have aroused much interest among teachers and superintendents who are interested in the advancement of scientific measurements and standards in the field of education.

This third conference continued the lines of discussion which were developed at the previous conferences, namely: the measurement of achievement in school subjects and the application of standards in the conduct of school surveys and financial administration.

Professor E. P. Cubberly of Leland Stanford Junior University gave addresses on "The Significance of Educational Measurements," "Standard Tests in the Work of School Administration," and "Measurements Applied to School Financing."

Doctor Cubberly was a member of the survey staffs in connection with the Baltimore and Butte Surveys and was director of the Portland, Salt Lake City and Oakland Surveys. He is also a graduate of Indiana University.

Doctor B. R. Buckingham, Educational Statistician for the State of Wisconsin, addressed the conference on "Principles of Scale Derivation with Special Application to Arithmetic, Geography, History and Grammar"and "Efficiency Indices."

Addresses and reports were made by President W. L. Bryan, Dean W. W. Black, Professors E. H. Lindley, M. E. Haggerty and H. G. Childs, of Indiana University, and by Mr. J. Z. A. McCaughan of the Bloomington High School.

Practical demonstrations of the administration of standard tests in algebra, arithmetic, English composition, reading and writing were conducted in the Bloomington Schools, Friday afternoon, April 14.

The program of the conference contains a selected bibliography of standard tests.

During the year co-operative research has been carried on in various city school systems by the Indiana University School of Education upon the following topics: tests in arithmetic, writing, reading, spelling and algebra and cost of instruction in high schools, and several reports were made to the conference embodying the results of these studies.

Indiana University. H. G. Childs.

Schoolmen's Week at the University of Pennsylvania

SCHOOLMEN'S Week, the annual conference of schoolmen at the University of Pennsylvania, was held this year on April 12th, 13th, 14th and 15th. The Committee prepared an unusually interesting and helpful program, and there was every indication that the high standard set by the conference of last year was fully maintained.

Topics of interest to city superintendents, high school teachers and elementary teachers were discussed. Among the educators whose names appear on the program were Dean James E. Russell and Professor George D. Strayer, Teachers College, Columbia University; Professor E. P. Cubberly, Leland Stanford University; Dean Lotus D. Coffman, College of Education, University of Minnesota, and Dr. Lida B. Earhart, of the New York City Schools. Each evening there was a general meeting, with addresses by prominent men, and the entire program was arranged in such a way as to combine interest and inspiration with discussions from the practical, scientific standpoint. Great interest in the conference was shown by schoolmen of the state.

Appropriation for Teachers' Homes as Consolidated Schools

THE General Education Board has appropriated $25,000 to assist consolidated rural schools in building homes for principals and teachers in connection with the schools.

The improvement of rural education in America depends on the consolidation of rural schools more than on any other single thing. A difficulty arises, however, because when five or six one-room schools are brought together the little villages and the open country do not afford satisfactory homes for so many teachers. In consequence, teachers who would otherwise be willing to teach in rural schools are driven to seek positions in towns. The General Education Board is to try an experiment for the purpose of solving this problem. The Board proposes to co-operate with the authorities of consolidated rural schools so as to build a comfortable home, adjoining a school, for the principal and teachers, and they hope that this home will simultaneously serve as a laboratory for the teaching of good housekeeping to the girls in the school. The first experiments will probably be made in the Northwest, where the consolidated school movement is especially strong and successful.

Correction

THE attention of the writer has been called to what obviously is a slight error in the computations made in his article, Do High School Graduates Going on to College Have Better Marks than Those Who Do Not Go on to College, in the February issue of this magazine. As stated in the article, the work was done entirely by students of the writer, and these have scattered and gone. Nor are their marking papers at present available. The discrepancies to be found are doubtless due to the dropping of second-place decimal figures, after certain additions had already been made. The writer did not scrutinize the work, perhaps, as carefully as he should, though the few errors made in the figures affect the conclusions very slightly.

Omitting the detailed figures for each city compared and considering totals only, the true findings are as follows:

	Median Grade of Graduates		High School Marks of those going to college		High School Marks of those not going to college	
	As given in article	Correct figure	As given in article	Correct figure	As given in article	Correct figure
Boys' Average	87%	87%	89.36%	89.16%	87.4%	87.4%
Girls' Average	89.07%	89.09%	91.14%	91.14%	88.41%	88.48%
Average of all	88.05%	88.04%	90.25%	90.15%	87.77%	87.93%

With these corrected figures as bases, the conclusions drawn would be modified as follows, namely:

1. Those going to college have a better grade in high school by 2.2% (not 2.5%) than those staying at home.
2. The boys going to college have a better grade in high school than the boys who do not go to college by 1.76% (not 1.96%).
3. The girls going to college have a better grade in high school by 2.66% (not "about 3%") than those who do not go to college.
4. The girls who go to college have a better grade in high school than the boys who go to college by 1.98% (not 1.78%).
5. The girls staying at home have a better grade in high school than the boys who stay at home by 1.08% (not 74%).
6. The boys going to college have a better grade in high school than the girls who do not go to college by 0.68% (not 1.22%).

The expressions "above median" and "below median" in Report No. 2 refer, of course, to the median of the grades obtained by the entire graduating classes, whether or not any have later gone to college.

C. O. DAVIS.

University of Michigan.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Experimenting with Prevocational Training in New York City

John E. Wade

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THE elementary schools in our day are continually reproached with their lack of adjustment to the social and industrial changes of the last century. Indeed so wide is the variance between the values which the schools deem important, and the actual needs of the majority of the children, that the charge is made that the common schools are aristocratic. The basis of this charge is the fact that inasmuch as the school is responsible not only for the development of the individual within the relatively narrow environment called the school, but also for his preparation for the larger environment into which he will eventually enter—called higher education, or business, or industry—it must afford equal opportunities for the differentiated preparation which the larger environment demands, and failing to do this, it is aristocratic because of meeting specifically the needs of one class of children only. No extended statement ought to be necessary to show that the curriculum of the elementary school, largely literary and scientific in character, prepares specifically for higher scholastic education, partially for business, and not at all for industry.

It is true that a generation or more ago this aristocratic tendency of the common schools was offset in a measure by the different industrial situation then prevailing. Unorganized preparation for industry, even in New York City, was possible through neighborhood shops. As recently as twenty years ago in one neighborhood there was a cabinet-making shop, a cooperage, a smithy, a wagon shop, and a rolling mill, to which boys went at odd times to observe the processes carried on in them. However, with the highly specialized factory system of industry of the present day, particularly in large cities, even this casual preparation for industry is not available, and the charge of the inequality of the preparation given by the school, takes on greater force. The introduction of prevocational education, therefore, is simply a recognition of the fact that the common school curriculum needs democratizing.

Fortunately for those interested in the problem of how the industrial element may be made part of elementary school education, two experiments in prevocational education representing opposite points of view, are now being carried on in New York City; one, the Gary plan under the direction of Mr. William Wirt, Superintendent of Schools of Gary, Indiana, and the other, the Ettinger plan under the direction of Dr. William L. Ettinger, Associate City Superintendent of Schools of New York City. Both experiments are under the personal supervision of their sponsors.

The fundamental difference between the two plans is that in the Gary plan an attempt is made to reproduce the neighborhood industrial system of a generation ago, and to give prevocational education through the casual, unorganized, and nonsequential industrial work involved in the equipment and maintenance of the school building. On the other hand, the Ettinger plan recognizes the fact that the reason for the existence of the school as a specialized institution is that it can carry out the function of education more efficiently than the unorganized environment, and that prevocational education must, therefore, be on a systematic, organized, and sequential basis, in conformity with the requirements of efficient school management.

The history of the beginning of the experiments in prevocational education is of interest. Five months before the historic pilgrimage of the New York City officials to Gary, prevocational education was begun in two New York schools. The movement, however, received its greatest encouragement from the public utterance of Mayor Mitchel, that he desired to leave as one of the permanent benefits of his administration, a well-organized, sound system of vocational education. In furtherance of this idea, the Mayor, with other city and school officials, visited the town of Gary, Ind., to inspect its system of vocational education, and as the direct result of this visit, the city entered into a contract with Superintendent Wirt to come to New York City to introduce his system of prevocational education. It is difficult for those whose knowledge of New York City school affairs is derived from press reports, to understand that the purpose of the Gary visit was to develop a plan of prevocational education for the city because of the publicity inaugurated concerning the economy of the Gary duplicate school as a type of school organization, and the assumed superiority of that organization in furthering academic school work, pupils' health, coöperation with neighborhood agencies, etc. It is unfortunate that this erroneous impression has been created, because Superintendent Wirt has been most careful in public utterance to emphasize the purpose of his mission in New York City, as given in his first report to the President of the Board of Education, "to report concerning the feasibility of securing prevocational training for all of the children in the public schools of New York City by means of a wider use of your present school facilities."*

It is unfortunately impossible to describe the Gary plan of prevocational education as it is in actual operation in New York City, because in the one school cited as the most finished demonstration of the plan, no shop equipment at all has as yet been installed, and in the other schools selected for demonstration, the shop equipment has been installed less than a month. However, sufficient printed authoritative data of how the plan operates in Gary, Ind., and therefore, what is presumably proposed for New York City, is available for purposes of discussion.

Two principles control prevocational education under the Gary plan: (a) the industrial work must be an indispensable part of the equipment and maintenance of the school plant, and (b) there must be no extra cost to the taxpayers. How this is done in Gary, is described by Mrs. Alice B. Fernandez, Director of the one-time Vocational Survey, who now speaks with authority for Superintendent Wirt. "The stroke of genius on Mr. Wirt's part, the thing which probably constitutes his unique contribution to this much confused question of vocational education for children under sixteen, is the plan by which he makes this work both real and financially practicable. He does this by employing skilled union mechanics to do repairs and construction work on the buildings. Children from the fourth grade up work with these mechanics, but because the work is real and has to be done, only a few children—not more than six at a time—work with any one mechanic. In this way, the expense of having additional teachers for industrial work is eliminated, the needed repairs and construction work are done for the cost of the salary of the mechanic, and most important of all, the children get training in actual work, because there are so few with any one mechanic, that they get the chance to do real work in helping him."*

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* Report to President Thomas A. Churchill of the Board of Education, June 30, 1914.

It is refreshing in these days when so much of manual training masquerades under the name of vocational training, to meet with a plan that stands squarely for real work as the basis of its system of vocational education. This the Gary plan emphatically does. But on the other hand, limiting the character and amount of this work to the needs of the school building, effectually prevents variety, sequence, and continuity of work. In this matter the experience of those actively engaged in the administration of vocational schools throughout the country cannot be lightly disregarded, and it is interesting, therefore, to note that not one vocational school in New York City, or its vicinity, has adopted the principle, that vocational work although real may be casual, non-sequential, and unorganized, and yet possess educational value. If this be true for pupils of vocational schools, how much more is it of effect for pupils of prevocational schools, all of whom are under sixteen years of age. As to the principle of no additional cost for vocational education, the testimony of those who, in visiting Gary, have noted the artisan teacher engaged in the dual process of earning his own salary, and of giving instruction at the same time possibly to fourth grade pupils, clearly shows that the artisan is inclined to emphasize, unconsciously perhaps, the completion of the job, rather than the education of his helpers. Moreover, on certain jobs around the building, it was observed that the pupils were not of sufficient assistance to the artisan-teacher to warrant keeping them with him, and they were, therefore, dismissed to other activities. This fact, and the additional fact that the shop courses run for only a fractional part of the year for each group of pupils, warrant the criticism that the prevocational courses are casual, and unorganized.

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* New York Tribune, April, 1915.

The daily shop program of the pupil group in the shops or at repair work around the building, needs a word of comment. It will be noted that not more than six pupils work at a time with one mechanic. The remainder of the shop section of twenty is sent to the teacher of application, or to the auditorium teacher of industry for consultation in vocational guidance. In the Emerson schools in Gary, in which there are seven shops, this would result in about 100 different boys being scheduled for consultation in vocational guidance, each period during the day. It can hardly be claimed that such consultation, continued throughout the school year and for several years, is the equivalent of participation in real shop work as a means of prevocational education, however valuable it may be as a plan of vocational guidance.

A statement by Superintendent Wirt, given on his model program dated August 1, 1915, concerning vocational guidance, is of value because of the necessity of viewing this vexing problem from many angles. He says, "The teacher in charge of the presentation of material related to the shops and industries should be able to give information as to the desirability of the several trades and industries as occupations. For example, the school plumber may prepare with his students a plumbing outfit for an ordinary dwelling or apartment, and give an entire day to the presentation of the way in which the plumbing should be cared for in a home. Another day could be given to the quality of the plumbing fixtures and to the installation. A third day could be given to the presentation of information as to the advantages and disadvantages of plumbing as a business or trade. The plumbing instructor may know much about plumbing, but very little about presenting his information directly, or through his students in an auditorium. The auditorium teachers must, therefore, assume the responsibility of supervising such presentation, in order that it may be effective. It is not necessary for more than three of the four auditorium teachers to be in the auditorium at the same time. The day that the plumber and his students present the advantages and disadvantages of plumbing as a business or trade, the teacher of industry may announce to the boys in the auditorium periods that for the remainder of the week any boy may be excused from his auditorium period for a personal consultation with him concerning the desirability of joining a class in plumbing. Sutdents are directed in their shop assignments by this auditorium teacher of industry who should also be the general supervisor of shop work. Vocational guidance is thus made possible as far as it is wise to undertake such guidance in the school at present." This plan though based solely on observation and description, would be of value in assisting pupils to make a preliminary choice. It can hardly be maintained, however, that it is the last word in effective vocational guidance.

In the Gary shops, the productive work is done by pupils of high school age, while other pupils from the fourth grade up act as helpers. Thus, one report describes fourth grade boys helping older boys mold sand in the foundry, or assisting seventh grade boys to take motorcycles and other machines apart. Comment is unnecessary except to state that significant work in a foundry or on a motorcycle is difficult enough to tax the capacity of pupils of high school age, and that possibly lads of the fourth grade might work with more profit to themselves in a manual training shop.

In accordance with the plan of connecting the school shops directly with the repair school plant, the two model Gary schools, the Emerson and the Froebel, have a wide variety of shops. Mr. Wirt's method of selecting shops in Gary is as follows: "The plan does not involve having the same shops and the same equipment in every building. The shops that are needed to maintain any building are put there, and their number is added to as the need arises for more activities. In Emerson, there are the following shops—one foundry, one print shop, one forge shop, one pattern and carpentry shop, one store, one kitchen, one sewing room, and one paint shop. In Froebel, there are—one metal shop, one plumbing shop, one print shop, one cabinet shop, one electrician, one potter, one cobbler's shop, one kitchen, besides the manual training shop." In contrast to this diversified industrial shop equipment, is the meagre provision made by Superintendent Wirt for the schools in New York City now reorganized on his plan. In one group of eight reorganized schools, provision is made for a total of eight manual training shops, six cooking rooms, six sewing rooms, four print shops, one cabinet shop, one machine shop, one sheet metal shop, one pottery studio, one millinery shop, and one garden. Since these schools occupy a widely scattered area, it is not possible to transfer either pupils or teachers from one school to another in order to give them the benefit of diversified equipment.

It would seem then that the industrial shop equipment planned for these schools is not extensive enough to insure training of sufficient diversity to be of service either to the pupils for complete vocational training, or to the needs of the school building in maintenance and equipment.

In conclusion, the Gary plan of prevocational education promises great things, which it may yet fulfill if freed from the necessity of unwise economy. It is right in demanding the democratizing of the common schools by restoring the industrial element through participation in real work, but by its method of doing this, it presents a scheme of questionable value. Those who admire the skill of Superintendent Wirt as an organizer, and who are sincerely interested in any plan for the enrichment of the common schools, would welcome the type of school his experience in Gary might create, if he were freed from the enforced fallacy, of attempting to organize elementary education too closely upon the principles of big business.

* * * * * * * *

The Ettinger plan has been in operation in seven schools in New York City for over a year. A preliminary report has been published, and a second report of progress is now in press. These are available for those interested in a more detailed account than is possible within the limits of this discussion.

Three controlling principles underlie the plan: (a) that at the end of the sixth school year, a differentiated course of study should be organized, so that those adolescent pupils whose aptitude is possibly toward industrial work, may have an opportunity, through working in several shops, and through a study of industrial conditions to determine whether or not they are fitted to undertake further practice in industrial work. The idea involved in this is not new. It has been stated many times by recognized leaders of educational thought, and by none with more force and clearness than by Dean Russell of Teachers College in a statement which appeared in the Educational Review: viz., "One characteristic of the American school system is apparently fixed. The work of the first six years of the elementary school is fundamental, the same for all regardless of sex or future occupation. Six years of schooling is the usual legal requirement, and there is a consensus of opinion that specialization should not begin before the twelfth or thirteenth year of age. Some would defer it two years or more, but the number of children leaving school at or before the end of the sixth year, warrants the attempt to make the work of the first six years of the elementary course complete in itself. Such a course should be cultural in the best sense, a course calculated to put the child in possession of his inheritance as a human being, and fit him to enter upon whatever work may be expected of him in the years immediately following. With six years of good fundamental training, the child is ready at thirteen or fourteen to look forward to his life work. The physiological age suggests differentiation for the sexes. For those who are to go to college, it is time to begin specialization along academic lines, for those who are to become artisans, farmers, or tradesmen, it is time to begin vocational training. Specialization at the age of twelve or fourteen along vocational lines should be essentially preparatory to the later years of the trade school or apprentice training. My point is that when the boy or girl hears the call of vocational life, specialization should begin and gradually narrow into technical training for specific occupations. A fundamental course of six years at once cultural and preparatory to the widest possible range of differentiated courses beginning with the seventh year, is the chief desideratum of our American school system." The question involved is not one of dividing a school into "thinkers" and "doers," but of so organizing the resources of the school that it shall offer an equality of opportunity, denied under a bookish curriculum.

(b) The second principle of the Ettinger plan is, that having determined the kind of industrial work for which the boy seems best fitted, sufficient practice at that particular work must be given to prepare him for continuing in a vocational school, in a technical high school, or in an industrial shop, if economic or other conditions prevent further schooling.

(c) The third principle is that while the cultural and social activity elements of the curriculum should be retained unchanged a correlation between certain phases of academic and industrial work should be developed. To those who are attempting to solve this particular problem, no reminder of its comprehensiveness and difficulty need be given.

Much is written, and more is spoken in these times of vocational guidance. Its many forms range from vocational guidance surveys to phrenology. It is probable, however, that effective vocational guidance can best be given by offering mature boys an opportunity to learn the elements of several trades by actually working at them in a shop, supplemented by a study of industrial conditions, and by consultation with well-informed teachers who know each individual personally. Two results may be expected from this type of guidance: (a) advice as to the fitness of the mature boy to do industrial work, so that he may be guided into industry or out of it, and (b) by practice in a variety of shops, advice as to the type of industrial work he is best fitted to do.

Inasmuch as entrance into the prevocational course at the end of the sixth school year, is a matter of selection, endeavor is made to give the preference to those who can profit most by the work. In the fifth and sixth years, the boy has had instruction in a manual training shop, so that some information concerning his manual dexterity is available, and, moreover, he has been visiting the prevocational shops under the guidance of his teacher, so that he knows the kind of work being done there. Sufficient data are, therefore, available to enable the boy and his parents to make an intelligent tentative choice between an academic and a prevocational course for the seventh and eighth, and, possibly, the ninth year. This choice is revised subsequently, either by the boy and his parents, or by his teachers, so that the prevocational group will eventually be composed of boys with an aptitude for shop work, and whose parents desire them to do that type of work.

Certain objections have been raised to this method of selection. It is urged that pupils of thirteen or fourteen years of age are too immature to make an intelligent choice in a matter of this kind. To which it might be answered that such pupils are adolescents in whom a wider intellectual life is developing, characterized by independence of thought and by a desire to make a beginning at the things which seem significant to the individual, that the manual training and shop visitation of the fifth and sixth years will aid in making an intelligent choice, and that the differentiated course is in accord with the opinion of those whose experience in the administration of large city school systems has been sufficiently extensive to entitle their judgment to respect. Another objection raised is that differentiation of work is undemocratic, on the ground of creating an alleged class distinction in the public schools. Those, who holding this point of view, profess to believe that giving to every boy an opportunity for training along lines for which his ability fits him, constitutes a menace to the democracy of the common schools, would avoid this possible evil by requiring every boy to work in the industrial shops, irrespective of maturity, ability, and parental desire. Perhaps this attempt at uniformity arises from a desire to standardize the human product of the schools, and make it "according to specification."

Under the Ettinger plan the selection of trades to be represented by shops in the prevocational schools, was not made dependent upon the needs of repairs to the school buildings, but upon a general analysis of industrial conditions in New York City, and in conformity with certain principles. This was considered sufficient guide for the beginning of the prevocational experiment. However, it is obvious that any extension of the plan, or of any other prevocational plan, should be based upon a thorough-going study of industiral conditions in New York City.

The first of these principles is, using the thought of Dr. Schneider of the University of Cincinnati, that the trade represented must be conducive to health, mental development and manual dexterity, summarized in the term "energizing." With this as a guide, an "enervating" trade such as cobbling would be excluded from the elementary schools because it is not conducive to health, nor to mental development, and another, such as house painting, because it is not conspicuously conducive to health, nor to mental development, nor to manual dexterity, however desirable it might be from the standpoint of keeping the school building in repair. The second principle is that the trade must be a characteristic one in New York City, affording opportunity for employment. The third principle is that manufacturing, installing and related trades must be represented, and the fourth principle is, that the elements of the trade must be within the capacity of elementary school boys.

Each of the schools under the Ettinger plan is, therefore, equipped with the following shops—machine, sheet metal, woodworking, printing, electric wiring, plumbing, and draughting, and in selected schools the following additional shops—industrial modeling, garment design, sign painting, and bookbinding. For girls, there are facilities for instruction in homemaking (kitchen, laundry, nursery, etc.) and shops for dressmaking, millinery, novelty work, and art weaving. The work done in all the shops is real, it is kept within the range of the pupils' developing experience and skill, and it is sufficiently varied to cover all of the elements of the trade.

In conclusion, the limits of this discussion preclude the possibility of doing more than attempting to focus the attention of those interested in prevocational education from the standpoint of the pupils, upon the two plans with which New York City is now experimenting. They are so fundamentally different in theory and in practice, and the issue with respect to their relative worth has been so definitely raised, that the final outcome of the two experiments ought to be of great significance to the question of prevocational education throughout the country. It would be most unfortunate if the decision were to be left to well-intentioned but possibly misinformed city officials, or even to the educational experts developed in very recent years through sources other than school administration, instead of to those whose experience in the administration of vocational education in large cities also qualifies them to judge of the merits of the situation.

Improving Instruction Through Educational Measurement

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AIM OF EDUCATIONAL MEASUREMENT IS IMPROVEMENT OF INSTRUCTION

The Department of Educational Investigation and Measurement in Boston is undertaking its measurement work on the theory that, "the ultimate purpose of all educational measurement is to increase the effectiveness of the instruction which the child receives." In this age of new undertakings and of new definitions of old ones, we cannot be reminded too often that every administrative agency, every special teacher or supervisor, all educational equipment, in fact, everything pertaining to the public school system is fundamentally for the purpose of making effective the instruction of the children. The information obtained from educational measurement, which goes to the superintendent's office, to assistant superintendents, to principals, or to teachers, is provided for the purpose of improving the present instruction, wherever that instruction is ineffective.

THREE STEPS IN THE PROCESS OF IMPROVEMENT

In the process of improving educational results through educational measurement, three quite distinct steps are involved:

1. The quality of the educational results now being obtained must be measured by the best available standard tests as a basis for determining just what the present educational achievement is. This involves also analyzing that achievement and judging it in the light of what, for a better term, may be called a standard achievement.

2. After the present educational achievement has been thus analyzed, suggestions must be made for improvement where results are unsatisfactory. These suggestions may be given in informal conferences with individual teachers or with groups, or they may be presented to teachers in the form of printed reports.

The sagacious superintendent or school official will not put them into the form of official orders.

3. When a reasonable time has elapsed after the suggestions were made similar standard tests must be repeated to determine what effect, if any, the suggestions have had on the instruction. These second tests should not be given until the teachers have had ample time in which to put the suggestions into operation. The suggestions cannot be made today and tests given tomorrow, or even next week.

PRESENT STATUS OF EDUCATIONAL MEASUREMENT IN BOSTON

In Boston, as elsewhere, the measurement of educational results is in its initial stages. In Boston the first step in the above program has been taken in several subjects the second step has been taken in a few cases; but as yet the third step has not been taken in any subject except in the four fundamental operations in arithmetic. It is the purpose of this paper to outline, briefly, the educational measurement work which has been started in Boston, and to review more fully the results which have been achieved in the four fundamental operations in arithmetic, because that is the subject which has received special attention for a sufficient length of time to warrant the expectation of measurable results.

The work which has already been undertaken in Boston to determine the present educational achievements will now be briefly described.

(*a*) *Accurate Copying*

One of the eight requirements in English for graduation from an elementary school, defined by the committee on standards in English and approved and put into effect by the Board of Superintendents, reads:

> "A graduate of an elementary school should be able to copy at least twelve lines of simple prose or poetry and a bill of at least seven items. (Copying is not an end in itself, but a means to an end. The pupils should be made to see that accuracy in Arithmetic, Language, and other subjects may depend largely on accuracy in copying.)"

A standard test was prepared by the department and given to 4944 first-year high school pupils in November, after they had been in the high school only about two months. For our purpose, they were considered only elementary school graduates. In this test the department was not concerned with the value of accurate copying as an accomplishment. The department was concerned with finding out to what extent elementary school graduates are able to meet this theoretical standard.

The standard for accurate copying, based on the median achievement of those 4944 pupils, reads as follows:

> "A boy graduating from the elementary school should be able to copy fifteen and a half lines (four and a half inches long, or 30 ems of 10 point type) of ordinary prose, in fifteen minutes, making not more than five errors of any kind. (Spelling, punctuation, capitalization, words added, words omitted, wrong words used, misplaced words, uncrossed t's, and undotted i's.)"
>
> "A girl graduating from the elementary school should be able to copy sixteen lines of ordinary prose in fifteen minutes, making not more than three errors of any kind." (Length of line and kinds of errors, same as above.)
>
> "A mixed class of boys and girls should be able to copy sixteen lines of ordinary prose in fifteen minutes, making nor more than four errors of any kind." (Length of line and kinds of errors same as above.)

In due time, after teachers have had opportunity to study the successes and failures of pupils in this test, and also have had opportunity to improve their instruction, another test of the same kind will be given to measure the improvement.

(*b*) *Spelling*

The department is proceeding on the assumption that one of the reasons for lack of ability on the part of some pupils to spell lies in the fact that teachers are spreading their instruction over too many words, many of which are practically useless to the pupil. As a means of economizing the time of teacher and pupil, and improving the pupil's ability to spell, the department is preparing a course of study for each grade, which shall consist primarily of words used voluntarily by normal pupils in their written work.

In making up the lists of words for each grade, teachers were asked to furnish lists of alleged difficult words. The teachers' lists have revealed two things: first, that mere opinion or "a priori" reasoning is not an adequate basis for determining the degree of difficulty of spelling words, because many of the alleged difficult words were spelled correctly by 990 out of 1000 pupils in a rigid test given last May; second, that many of the words which teachers have reported as being difficult to spell are words which elementary school pupils should not be expected to spell. Teachers have been trying to teach such words as "convalescence, coupe, crochet, diaphragm, dilatory, equilibrium, fictitious, hypotenuse, impenetrability, knuckles, licorice, malleable, mayonnaise, naphtha, phlegm, quadrilateral, reminiscence, sovereignty, and zephyr," when the children are misspelling such common words as, "business, divide, either, enough, fourth, library, ninety, similar, straight, their, there, through, and which." To limit instruction to a reasonable list of words, and thereby to economize the time and energy of both teacher and pupil, is the first step which Boston has taken toward improvement in spelling.

Boston has also taken another step to promote better spelling. As a result of the tests given last May, the degree of difficulty of each word in the spelling lists for the various grades has been determined according to the ability of 1000 pupils to spell it. Each word has thus been standardized so that each teacher knows what words are most difficult for the children of her grade. She likewise knows with what degree of accuracy the children of her class ought to spell the assigned words.

One further step has been taken in Boston. A committee of Boston teachers has been organized to study the various methods of teaching spelling. This committee has reviewed all the periodical and other literature published during the last several years touching on this subject. The recommendations of each educational writer on methods in spelling were discussed by the committee, and each teacher during the next ten weeks is to carry on in her school an experiment involving some phase of method of teaching spelling. At the close of this year's work a printed report for teachers will set forth the results of these experiments.

(*c*) *Geography*

The first and second steps in the above program have also been taken in the subject of geography. A test was recently given covering certain phases of the geography of the United States and Europe. Exactly the same test was given to 594 eighth grade pupils, to 166 third-year high school pupils, and to 83 first-year pupils in the Boston Normal School. The most surprising result shown by this test is that so little of what has been taught in the sixth grade remains in the minds of eighth grade, high school, or Normal School pupils. This test has indicated the urgent need of defining the minimum essentials on the course of study, if pupils graduating from the elementary school are to carry with them a knowledge of those common facts of geography which should be the intellectual possession of every person.

(*d*) *Penmanship*

The quality of the handwriting of elementary school graduates has also been studied. A random selection of 600 papers was made from the 4944 papers written in the test in accurate copying. These papers were studied by a committee of six Boston teachers who are especially proficient in the teaching of penmanship. The papers were rated according to the Ayres Scale for Adult Handwriting, disregarding the even numbered specimens in that scale.

The committee has also analyzed the merits and defects of these specimens of handwriting, and a report is being prepared for distribution among the teachers of the city. The department believes that merely calling the attention of teachers to the merits and defects of the handwriting of the children is to promote systematic improvement.

(*e*) *Addition of Fractions*

In December a test in the Addition of Fractions, prepared by the department, was given in the sixth, seventh, and eighth grades of the elementary schools. The usual procedure for grades of the elementary schools. The usual procedure of analyzing the results and printing a report for the use of teachers will be followed.

(*f*) *Four Fundamentals in Arithmetic*

Addition, subtraction, multiplication, and division are the only phases of any subject in which educational measurement has been carried on for a sufficient length of time to make it reasonable to expect any tangible results therefrom. The remaining portion of this paper will describe the methods employed to utilize the results from giving the Courtis Tests in Boston, and the improved results which have been obtained in the four fundamental operations.

The Courtis Standard Tests were introduced into Boston in October 1912, when Mr. Courtis was employed by the School Committee to make a study of the results of arithmetic instruction. Since that time the Courtis Standard Tests have been given five times in Boston.

The introduction of the tests into the city has been gradual. They were first given in twenty-one of the seventy elementary schools of the city. Gradually, from ten to fifteen more schools have been added in the five successive testing periods, until in May 1915 all of the seventy elementary schools were tested, involving 214 buildings and 55,277 pupils.

METHODS EMPLOYED TO IMPROVE INSTRUCTION

Before taking up a detailed account of the results of testing work in arithmetic, it will be well to consider the use which has been made from time to time of the results from that testing work. This will illustrate not only how the improvement in the four fundamental operations in arithmetic has been brought about; but it will also show the methods by which the department undertakes the improvement of instruction in any subject.

(*a*) *Standards Have Been Established*

Objective standards of achievement in the four fundamental operations in arithmetic have been established for grades IV to VIII, inclusive, in the elementary schools. These standards have been established on the basis of the median achievement of all the pupils in all the schools tested. These standards not only represent the present educational achievement of the elementary schools in the four fundamental operations, but they indicate a reasonable achievement for any class of normal pupils.

As in other cities, Boston finds great variation in the achievement of pupils and classes—a condition which appears to a considerable extent as unnecessary as it is educationally disadvantageous. The lower 29 per cent. of the eighth grade pupils have no more ability than the upper 29 per cent. of the fourth grade pupils. Ultimately this variation should be reduced through a better education classification of pupils. If these objective standards become the end to be attained by pupil and teacher, and if they become an incentive for both to put forth their best efforts or to economize time, as the case may be, the results cannot be other than a more homogeneous group of pupils in each class and grade.

(b) *Formal Reports Have Been Made*

(1) To Teachers

The report made to each teacher places her in a position to know how her class stands in comparison with the established standard for that grade. What is still more important, these reports tell her what pupils made low scores and probably need special attention and what pupils made high scores and, hence, should not be subjected to any further unnecessary drill.

(2) To Principals

A report has been made to each principal after each test, showing the relative standing of his school in the city and of each class in his school. Every principal may find in these reports what classes stand relatively low and should have special attention in his supervision. These reports have been made as professional and more or less confidential reports from the director of the department to the principal of the school. Detailed comparison of the work of one teacher with that of another, which is likely to arouse controversy or hard feeling, has been studiously avoided. The form of the report has been such as to protect every individual teacher and no publicity has attended it. What official use is made of the report is left entirely to the discretion of each principal.

(3) To the Superintendent

The superintendent has been furnished with copies of all statistical tabulations and reports for his information and for such individual use as he cares to make of them.

Inasmuch as educational measurement is at present fairly well begun in Boston, the Board of Superintendents and the department are now engaged in working out a plan for placing results from educational measurement in the hands of each assistant superintendent to be used in his supervision of schools and teachers. When such a plan has been perfected, the necessary official machinery will have been set up for securing the most effective and far-reaching benefits from the work of the department.

From the above description, it is clear that the results thus far achieved from educational measurement have been brought about without administrative pressure of any kind. The department has no authority whatever over principals and has not undertaken to direct them. Whatever has been accomplished has been brought about through the professional attitude of principals and teachers toward this problem of economizing time and effort in the obtaining of a satisfactory result. The credit for the achievement belongs, therefore, to the principals and teachers rather than to the department of which the writer is director.

(*c*) *Printed Bulletins Have Been Distributed*

In addition to the reports just described, bulletins have been prepared by the department analyzing the statistical results, explaining their significance, and suggesting methods of improving unsatisfactory results. These bulletins have been published as School Committee documents and a copy has been given to each teacher.

(*d*) *Systematic Practice Material Has Been Introduced*

Undoubtedly the most important means of improving arithmetic instruction in the four fundamental operations has been the introduction of systematic practice material or exercises which take the place of the former general class drill in which every child practised on the same exercise. The Courtis tests have demonstrated conclusively that the mass or class drill exercises in addition, subtraction, multiplication, and division is ineffective and uneconomical. Mass drills provide unnecessary practice for the more capable third of the class and hence are uneconomical; they do not provide enough practice for the less capable third of the class and hence are ineffective. An economic distribution of drill requires that it provide a means of reaching the individual needs of the forty pupils of the class.

The department has not insisted on the use of any particular kind of practice material. Reports from the principals show that over 80 per cent. are using one or more of five different kinds. The department has felt that each principal should be left to use that educational material which he and his teachers believe to be most effective, but the department then expects these principals and teachers to produce satisfactory results.

This brief sketch will give a general notion of the methods by which the department believes the educational results in various subjects can be improved. Undoubtedly the objective standards of achievement, the various reports made to teachers, to principals, and to the Superintendent, the printing of bulletins for general distribution, the introduction of scientific practice material, have all contributed something toward the improvement of results in arithmetic. Of more pronounced effect probably than any of these factors, however, has been the stimulation among teachers of an inquiring attitude toward the whole problem of arithmetic instruction. The results from the tests have shown the need of improvement; they have shown that the problem of arithmetic teaching is not yet solved, and they have prompted many teachers to study their own work as the first step toward improving methods of instruction.

MEASURING THE IMPROVEMENT IN ARITHMETICAL RESULTS

Courtis Standard Tests, Series A, were given during the first year the Courtis tests were used in Boston, three years ago; and Series B have been used since then. Unfortunately, for our purpose, this makes it impossible to compare the achievement of pupils in 1912, when the tests were first given, and the achievement in 1915, after a period of three years.

A most significant comparison can be made, however, between the results achieved in May 1915 in the schools where the tests had been given over a period of three years and results obtained in schools where the tests were given in May 1915 for the first time. This comparison will show the cumulative effect of giving the tests in a group of schools over a three-year period. To make this comparison, the seventy elementary schools of Boston were divided into three groups and the results tabulated accordingly.

Group A schools in the following discussion are those in which the tests have been given since 1912. In Group A there are twenty-nine schools and 18,391 pupils represented.

Group B schools are those which were added during the second year of the first half of the third year of testing. They are schools which have been tested from one to two years, and are schools in which the effects of the testing may legitimately vary. In Group B there are seventeen schools and 15,241 pupils represented.

Group C are those in which the tests were given for the first time in May 1915. They are schools which have not been affected by the Courtis testing work in the city, except in so far as general discussion of the work has affected individual teachers or principals. It should be said, however, that principals of these schools have had opportunity to introduce the practice material, and several of them did so. It these schools had not been at all affected by the system of educational measurement in the city, the superiority of the schools tested would have been even greater than it is. In Group C there are seventeen districts and 11,836 pupils represented.

In the following comparisons particular attention will be directed to the achievements of Group A schools and Group C schools, because these two groups represent the two extremes, the former having received the full effect from the testing work and the latter supposedly not having received any.

It should be understood that the schools tested by Mr. Courtis in 1912–13 were so selected as to represent the varying conditions found in the city. This same care has been taken in adding schools from year to year, so that one group of schools possesses no coherent superiority over another group.

By way of summary, let it be noted: first, that all the public elementary schools of the city are involved in this comparison; second, that each group (A–B–C) is representative of the varying conditions in the city; and, third, that the number of pupils involved is sufficiently large to constitute a reliable basis of comparison.

Comparison of Median Scores of Group A, Group B, and Group C Schools by Subjects. May, 1915

ADDITION

	Group A		Group B		Group C	
Grade	Speed	Accuracy	Speed	Accuracy	Speed	Accuracy
VIII	14.4	79.07%	13.1	77.84%	12.6	76.41%
VII	12.9	77.50%	11.6	74.15%	11.6	74.24%
VI	11.5	78.17%	10.4	72.72%	11.1	74.14%
V	9.3	72.93%	9.6	71.61%	9.4	68.64%
IV	8.2	70.00%	7.6	65.15%	7.7	63.11%

The arrangement of the above table makes a comparison easy. For example: in addition in Grade VIII, Group A schools achieved a median score of 14.4 examples attempted, with an accuracy of 79.07 per cent.; Group C schools achieved a median score of 12.6 examples attempted, with an accuracy of 76.41 per cent.; From this comparison, we find that in addition Group A schools show a superiority over Group C schools of 1.8 examples attempted. This is a superiority of 14.3 per cent. in amount of work done, and the table also shows a superiority of 2.66 per cent, in accuracy for Group A schools.

In subtraction in Grade VIII, Group A schools achieved a median score of 14.6 examples attempted, with an accuracy of 89.73 per cent.; Group C schools achieved a median score of

Comparison of Median Scores of Group A, Group B, and Group C Schools by Subjects. May, 1915

SUBTRACTION

Grade	Group A Speed	Group A Accuracy	Group B Speed	Group B Accuracy	Group C Speed	Group C Accuracy
VIII	14.6	89.73%	13.1	88.77%	12.4	86.92%
VII	12.9	87.57%	11.7	86.26%	11.5	84.92%
VI	11.5	88.01%	10.7	85.69%	11.0	88.73%
V	9.3	85.14%	9.4	84.44%	9.0	80.64%
IV	7.9	83.63%	7.5	81.56%	7.1	78.28%

12.4 examples attempted, with an accuracy of 86.92 per cent. This comparison shows that in subtraction, Group A schools possess a superiority over Group C schools of 2.2 examples attempted, or of 17.7 per cent. In achieving this increase of 17.7 per cent. in the amount of work done, Group A schools have also at the same time surpassed Group C schools in accuracy by 2.81 per cent.

Comparison of Median Scores of Group A, Group B, and Group C Schools by Subjects. May, 1915

MULTIPLICATION

Grade	Group A Speed	Group A Accuracy	Group B Speed	Group B Accuracy	Group C Speed	Group C Accuracy
VIII	12.1	82.58%	11.2	81.19%	10.8	80.42%
VII	10.8	81.58%	10.3	79.28%	10.1	80.08%
VI	9.5	78.45%	8.8	76.67%	9.4	79.93%
V	7.6	75.69%	7.7	76.01%	7.3	70.97%
IV	6.1	70.95%	5.9	67.45%	5.8	63.61%

In multiplication in Grade VIII, Group A schools achieved a median score of 12.1 examples attempted, with an accuracy of 82.58 per cent.; Group C schools achieved a median score of 10.8 examples attempted, with an accuracy of 80.42 per cent. This comparison shows that in multiplication, Group A schools possess a superiority over Group C schools of 1.3 examples attempted, or of 12.0 per cent. Group A schools surpass Group C schools in accuracy by 2.16 per cent.

Comparison of Median Scores of Group A, Group B, and Group C Schools by Subjects. May, 1915

DIVISION

Grade	Group A Speed	Group A Accuracy	Group B Speed	Group B Accuracy	Group C Speed	Group C Accuracy
VIII	12.7	93.46%	12.0	92.08%	11.0	89.72%
VII	10.9	89.34%	9.6	87.63%	9.3	86.37%
VI	8.9	88.09%	7.9	85.02%	8.6	86.72%
V	6.2	78.98%	6.7	80.05%	6.2	73.68%
IV	4.7	65.85%	4.6	59.11%	4.8	63.11%

In division in Grade VIII, Group A schools achieved a median score of 12.7 examples attempted, with an accuracy of 93.46 per cent.; Group C schools achieved a median score of 11 examples attempted, with an accuracy of 89.72 per cent. This comparison shows that in division, Group A schools possess a superiority over Group C schools of 1.7 examples attempted, or of 15.5 per cent. in amount of work done. In doing this increased amount of work, Group A schools have at the same time increased the accuracy with which the work has been done, so that they now surpass Group C schools in accuracy by 3.74 per cent.

In the preceding discussion, comparisons have been limited to Group A and Group C schools and to the results in Grade VIII. The following table, based on the preceding tables, institutes a comparison concerning all three groups of schools and the five grades from the fourth to the eighth, inclusive. The table shows the difference between the speed median and accuracy median achieved in Group A and in Group B and Group C schools, respectively.

The following table is to interpreted as follows: in Grade VIII the pupils in Group A schools exceed in ability the pupils in Group B schools by a median score of 1.3 examples attempted and by 1.23 per cent. in the accuracy with which they did their work; the same pupils surpass the pupils in Group C schools by a median score of 1.8 examples attempted and by 2.66 per cent. in the accuracy with which they did their work.

In the ten cases where the number is preceded by a minus sign the median for Group A schools is lower than the median for the group indicated. In the seventy cases where no sign is indicated the advantage is in favor of Group A schools.

A few brief statements, without discussion, will summarize the conclusions to be drawn from this comparative table:

1. In the amount of work done by pupils in the four fundamental operations Group A schools show superiority over Group B schools in sixteen out of twenty comparisons and over Group C schools in eighteen out of twenty comparisons.
2. In the accuracy with which work was done, Group A schools show superiority over both Group B and Group C schools in seventeen out of twenty comparisons.

		ADDITION		
	Group B Schools		Group C Schools	
Grade	In Speed	In Accuracy	In Speed	In Accuracy
VIII	1.3	1.23%	1.8	2.66%
VII	1.3	3.35%	1.3	3.26%
VI	1.1	5.45%	.4	4.03%
V	—.3	1.32%	—.1	4.29%
IV	.6	4.85%	.5	6.89%
		SUBTRACTION		
VIII	1.5	.96%	2.2	2.61%
VII	1.2	1.31%	1.4	2.65%
VI	.8	2.32%	.5	—.72%
V	—.1	.70%	.3	4.50%
IV	.4	2.07%	.8	5.35%
		MULTIPLICATION		
VIII	.9	1.39%	1.3	2.16%
VII	.5	2.30%	.7	1.50%
VI	.7	1.78%	.1	—1.48%
V	—.1	—.32%	.3	4.72%
IV	.2	3.50%	.3	7.34%
		DIVISION		
VIII	.7	1.38%	1.7	3.74%
VII	1.3	1.71%	1.6	2.97%
VI	1.0	3.07%	.3	1.37%
V	—.5	—1.07%	.0	5.30%
IV	.1	6.74%	—.1	2.74%

3. The ten cases in which the Group A schools are surpassed in speed or accuracy by Group B or Group C schools are distributed as follows:

	Group B	Group C	Total
Grade VIII	0	0	0
Grade VII	0	0	0
Grade VI	0	2	2
Grade V	6	1	7
Grade IV	0	1	1
	6	4	10

It is to be expected that in the earlier grades the difference between these schools tested and those not tested would be small because the cumulative effect of testing work can be hoped for only after several years of effort, and hence must always be found largely in the upper grades.

SIGNIFICANT OBSERVATIONS

1. The difference in amount of work done between Group A, Group B and Group C schools is slight in the earlier grades and gradually grows more pronounced until in the eighth grade the

superiority of Group A schools over Group C schools is from 12.0 to 17.7 per cent.

2. This gain of from 12.0 to 17.7 per cent. in the amount of work done has also been accomplished by an actual increase in the accuracy with which that work has been done. Although the idea has not been developed in this paper, it is proper to point out that in all testing work undertaken by the department those pupils who do most work do it most accurately. This is a refutation of the contention of would-be critics that pupils are inaccurate in the Courtis tests because they are hurried in their work.

3. The fact that the 18,391 pupils represented in Group A schools are gradutaing from the elementary school or are going into the next grade with varying degrees of superiority up to 17.7 per cent. over the 11,839 pupils who have not been tested, is altogether due directly or indirectly to the system of educational measurement in Boston.

4. It is also a significant fact that this achievement has been brought about without the exercise of any administrative pressure of any kind whatsoever. The results are wholly due to the desire of principals and teachers to make the best possible use of the time of teachers and pupils in securing a reasonably satisfactory aducational result.

5. These results seem to prove two important propositions: (1) That the scientific measurement of educational results is possible and practicable in a large city school system; and (2) that educational measurement may be a means of improving those educational results.

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Paper read before the National Association of Directors of Educational Research at the Meeting of the Department of Superintendence, Detroit, Michigan, February 24, 1916, by Frank W. Ballou, Director, Department or Educational Investigation and Measurement, Boston, Mass.

DISCUSSIONS AND COMMUNICATIONS

PRE-VOCATIONAL TRAINING: A MORE FUNDAMENTAL KIND*

At a recent labor conference in New York City, called to present a program for the local public schools, Mr. Gompers expressed himself as open-minded towards the Gary plan which is about to be extended to thirty-five more New York schools. This open-mindedness of Mr. Gompers is in welcome and significant contrast to the attitude taken by some of the smaller leaders in the city, who have apparently tried to line up organized labor with a personal political machine and with reactionary schoolmen in obstructing the reorganization of the elementary schools. But organized labor has better business than opposing educational reform, and Mr. Gompers's remarks, made with full responsibility and in direct opposition to the thinly-veiled partisan spirit of the conference, suggest that the responsible leaders of labor are willing to take a more enlightened stand in this important movement.

Organized labor has repeatedly gone on record in favor of a public school system which will train a labor citizenry so versatile and intelligent as to be able to protect itself from exploitation and the hazards of our social shiftlessness. It has demanded that vocational teaching be kept intimately related to life, so that children come out from the school neither helpless unskilled workers nor narrow machine-tenders, but potential citizens acquainted with the backgrounds of their crafts, with the significance of the labor movement and the institutions and movements of the world about them. Labor above all classes has a vital interest in an education for all children which acknowledges the full intellectual and social meanings of industrial processes and occupations. The education that labor desires is one which will give, particularly to those who engage in industrial callings, the desire and ability to share in social control, and to become masters of their industrial fate.

Now organized labor must be rapidly coming to see that this demand will never be satisfied by the conventional type of city public

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*From an editorial entitled "Organized Labor on Education": *The New Republic*, May 6, 1916.

school. A traditional school founded on the bookish education of a leisure class can never be made into a pre-vocational school that will give power and dignity to labor, without a fundamental transformation of the present spirit, subject-matter and teaching methods. An elementary school which gives its children no more than narrow drill in the three R's plus a little remote and unreal text-book information in history and geography, with what little half-hearted music and drawing and nature-study can be squeezed in, will never give the foundation that the trained worker will need. No system of trade-training or vocational education superimposed upon such an elementary school will remedy the evils. Children who have been listlessly and ineffectively drilled in book-work will have acquired attitudes that are likely to be carried over into vocational work. Except for the few, industrial training will seem sheer drudgery, for it will have its roots in no interests and powers developed in earlier years. Pre-vocational education must mean something more than a mere sop to the motor-minded boys and girls who are restless with their books and are on the verge of leaving school for work. Such training, if it is to mean anything, must be woven in as an organic part of the school course. The entire elementary school could be a general, free, spontaneous, amateur pre-vocational school, where in direct contact with machines and industrial processes as well as books, with gardens and gymnasiums as well as laboratories and kitchens, with tools and print and pottery shops and drawing and music studios, children might have their imaginations stirred, try out their busy hands on things, and gradually sift out of the variety the interests that they can lay hold on with some promise of creative use. The school might be a place where play passed insensibly into work, and aimless experiment into purposeful construction.

Most of the current criticism of the public schools arises from the rapidly growing conviction that only in such a school will the modern city child have a chance to be educated in any way which will meet the demands in industrial or commercial life that will be made upon him. There is danger in current educational experiments that we become too easily satisfied with the mere addition of desirable courses, without at the same time transforming the school so that the new work is organically assimilated. Labor cannot be content with the school reform which many cities are adopting in the introduction of vocational courses merely in the upper grades. Such a postponement means an invidious class-distinction in those grades between the children who are going on to academic work and those who are going on to industrial work. It broadens the gulf between labor and leisure rather than diminishes it. Labor should be the first to protest against these "pre-vocational courses," "junior high school plans," as they are variously called. A school which consists merely of six years of bookish schooling with trade-learning and athletics tacked on at the top would merely intensify the evils under which labor now suffers. It would produce mechanical drudges. It would almost guarantee that industrially exploitable horde of young workers the creation of which organized labor so much fears.

In advocating such a system the lesser labor chiefs in New York have been very badly advised. The program of "immediate demands," put forth under Mr. Gompers's nose with a great flourish of the rights of labor, is not only unprogressive but actually reactionary. It is exactly the kind of specious program that the narrow-minded employer might demand who wished a docile but intelligent labor force trained at the public expense. In whose interest does labor demand the "immediate elimination from the course of study of any activity which takes away from the essentials and fundamentals of education in the elementary schools?" To eliminate organized play, auditorium dramatics, shopwork, gardening, dancing, etc., is surely the best way to drive children out of school, or to train them into mere appendages to machines. What labor needs is the most varied kind of work-study-and-play school, where imagination and interest are awakened. Yet here we find a conference on organized labor and education demanding simply more of the old kind of traditional schools! What good will it do to have more school buildings, more teachers, more pay for teachers, even more night-schools and playgrounds, if the schools merely pursue the old limited grind? Labor needs a school enriched in opportunity and vitalized with the modern spirit of "learning by doing," yet all it can think of to demand is "a seat for every child"! And to ram home to the public a sense of its straitened vision, this conference records its "emphatic protest against any further extension of the Gary plan."

Now opposition to the Gary plan may be a useful attitude for the lesser labor leaders who are playing for political stakes, but we cannot believe that this is the attitude of the intelligent elements in the labor movement. For what the Gary plan does is exactly to make possible for the first time on a large public scale this greatly enriched elementary school which labor needs for the realization of its own expressed educational ideals. The broad curriculum, the flexibility which adapts the school to the needs of every child, the interweaving work, study and play, transform the traditional school into a kind of child-community, where children throughout the course are laying the rudiments of their vocations. They have a chance from the early years, by trial and error, by experiment and realization, to find out what they can do and what they cannot do. To quote Superintendent Wirt, the Gary school is educating them just as the home, shop and school teacher educated the children of earlier American days. No formal pre-vocational course begun in the seventh or eighth year can do what this simple intimate contact with things and processes does. In a sense, industrial education may begin in the Gary school as soon as the small child is interested in going into the school-shops or laboratories as helper or observer. All the activities may be tested in the same way. The school is thoroughly democratic because the opportunities, bookish, manual, artistic, are open on equal terms to all the children. For labor to oppose the Gary plan means that labor is suicidally opposing the very kind of school that holds out the most opportunity for an enriched education for its children.

Mr. Gompers and the other responsible leaders of organized labor could do nothing more important than make an immediate and thorough study of the educational promise of the Gary school. If organized labor were to put itself enthusiastically behind the Gary plan, it would have at once an enlightened policy on elementary education which would effectively prevent any insidious exploitation of the movement. It would be well if the responsible leaders would repudiate these lesser labor chiefs who manipulate education for political purposes. The time has come for a bold and progressive stand.

A BRIEF LIST OF BOOKS ON THE SOCIAL SCIENCES

William Spence Robertson
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A BY-PRODUCT of the Great War, with its unspeakable horrors, is the conviction by thinking men and women of the utility of training in the so-called social sciences. That conviction is destined to reënforce the movement which aims to increase the amount of time spent upon the study of the social sciences in our high schools. More than ever will superintendents and high school teachers be asked wisely to select books for their libraries. More than ever will they be expected to direct profitably the reading of their pupils and associates. In all likelihood the emphasis in the study of the social sciences will be somewhat changed. In response to the crying demand for a sane international spirit, the amount of time devoted to the study of modern history and of international relations should be increased. The writer has kept that prospect in mind when selecting this list. He has sought for authoritative, comprehensive, and luminous one-volume surveys of the important epochs of history and for similar surveys of government, politics, economic history, and international relations. He has included only one collection of sources. Naturally the emphasis has been laid upon recent history: almost as naturally the emphasis has fallen upon American history and politics. The compiler is well aware that any other person might have selected—in all probability would have selected—a different list. His list is more than a minimum list of books on the social sciences which a progressive teacher ought to possess; for choices may be made from volumes in the list that deal with the same period of American history.

ADAMS, GEORGE B. *Civilization during the Middle Ages, especially in relation to modern civilization.* Scribner, New York, 1914..$2.00

A scholarly and stimulating book which covers the period from the decline of Rome to the Reformation.

BASSETT, JOHN S. *A Short History of the United States.* Macmillan, New York, 1915....................................$2.50

A comprehensive history of the United States.

BEARD, CHARLES A. *Contemporary American History,* 1877–1913. Macmillan, New York, 1914...............................$1.50

A survey of our recent history which supplements the last volume of "The Riverside History," as it emphasizes political events.

BOGART, ERNEST L. *The Economic History of the United States,* Longmans, London, etc., 1915............................$1.75

An industrial and commercial history of the United States during the colonial and national periods, with illustrations, maps, and charts.

BOURNE, HENRY E. *The Revolutionary Period in Europe* (1763–1815). Century, New York, 1914..........................$2.50

Opening with a sketch of Europe on the eve of the revolution, this volume furnishes a detailed survey of the French revolutionary and Napoleonic eras.

BOURNE, HENRY E. *The Teaching of History and Civics in the Elementary and the Secondary School,* Longmans, New York, 1915.$1.50

A volume which discusses such topics as the meaning of history, historical method, school programs, courses of study, and methods of instruction. At some points it may be supplemented by Professor Henry Johnson's recent volume on the "Teaching of History in Elementary and Secondary Schools" published by Macmillan.

BREWER, DAVID J. *American Citizenship.* Yale University Press, New Haven, 1902..$1.15

The inaugural volume of the series of Yale lectures on the responsibilities of citizenship.

CHANNING, EDWARD, HART, ALBERT B., AND TURNER, FREDERICK J. *Guide to the Study and Reading of American History.* Ginn, Boston, etc., 1912..$2.50

A comprehensive bibliography which includes titles dealing with the West, economic development, recent history, and international relations. A useful guide for reference and private study.

CHEYNEY, EDWARD P. *An Introduction to the Industrial and Social History of England.* Macmillan, New York, 1915............$1.40

A brief suggestive survey of the economic and social history of England.

CROSS, ARTHUR L. *A History of England and Greater Britain.* Macmillan, New York, 1914................................$2.50

This substantial volume furnishes a detailed survey of British history.

DEWEY, DAVIS R. *Financial History of the United States.* Longmans, New York, etc., 1910................................$2.00

Opening with a sketch of colonial and revolutionary finance, this book describes our fiscal history to the beginning of the twentieth century. It contains useful tables and illustrative charts.

FISH, CARL R. *The Development of American Nationality,* Volume II of "The American People." The American Book Company, New York, etc., 1913..$2.25

With a refreshing style and a new emphasis this volume covers the period from 1783 to 1912. Considerable attention is paid to economic and social conditions. To be followed by Professor Evarts B. Greene's volume on the "Foundations of American Nationality."

FISH, CARL R. *American Diplomacy.* Holt, New York, 1915. $2.75

A bird's-eye view of the diplomacy of the United States. This book shows the relation between our diplomatic policy and our history. It contains some useful maps.

HART, ALBERT B. *The Monroe Doctrine: An Interpretation,* Little, Brown, and Company, Boston, 1916.................$1.75

A thought-provoking book on the great American puzzle. An English point of view may be obtained from Reddaway's book on "The Monroe Doctrine."

HAZEN, CHARLES D. *Europe Since 1815.* Holt, New York, 1910. $3.00

A lucid account of European history from the downfall of Napoleon to the second Hague conference. It contains vivid descriptions of significant events and brilliant characterizations of prominent personalities. With fourteen maps, it furnishes the historical background of the Great War.

LOWELL, A. LAWRENCE. *The Governments of France, Italy, and Germany.* Harvard University Press, Cambridge, 1914......$1.25

This timely volume is an abridgment and revision of the author's well-known work on "Governments and Parties in Continental Europe."

McCLAIN, EMIL. *Constitutional Law in the United States.* Longmans, New York, etc., 1813..................................$2.25

A brief survey of our constitutional law, state and federal. Indispensable to students of American constitutional history: at many points it embodies the gist of Supreme Court decisions.

MACY, JESSE, and GANNAWAY, JOHN W. *Comparative Free Government.* Macmillan, New York, 1915........................$2.25

This volume contains a detailed description of the government of the United States, of the English government, and a brief description of some other governments.

MOORE, JOHN B. *American Diplomacy, Its Spirit and Achievements.* Harper, New York, etc., 1915......................$2.00

Essays upon important phases of our foreign policy by an authority on American international law. In chapter six on "Non-intervention and the Monroe Doctrine" the author defined the Monroe Doctrine as "the principle of the limitation of European power and influence in the Western hemisphere."

The New York Times Current History, a Monthly Magazine. The European War, Volume I, *From the Beginning to March, 1915.* The New York Times Company, New York, 1915................$2.25

The Great War as viewed by contemporaries and participants, containing cartoons, maps, and photographs.

PLOETZ, CARL J. *Handbook of Universal History from the Dawn of Civilization to the Outbreak of the Great War of 1914.* Ploetz's Epitome, translated and enlarged, by W. H. Tillinghast, with additions covering recent events. Houghton, Mifflin Company, Boston, 1915. $3.00

A standard work of references containing the dates of important events.

The Riverside History of the United States. Edited by William E. Dodd. Houghton, Mifflin Company, Boston, etc., 1915.

BECKER, CARL L. *Beginnings of the American People*	$1.25
JOHNSON, ALLEN. *Union and Democracy*	$1.25
DODD, WILLIAM E. *Expansion and Conflict*	$1.25
PAXSON, FREDERIC L. *The New Nation*	$1.25

These four handsome volumes contain a survey by coöperating scholars of the history of the United States from the era of discovery to the present time. Social, economic, intellectual, religious, and sectional interests are considered, as well as political. Recent history is emphasized. The volumes contain numerous maps and charts and furnish an interpretative review of American history in brief compass.

ROBINSON, JAMES H. *The New History.* Essays illustrating the modern historical outlook. Macmillan, New York, 1912....$1.50

The most recent and effective formulation of the newer conception of history.

ROBINSON, JAMES H. and BREASTED, J. H. Outlines of European History. Part I. Ginn, Boston, etc., 1914................$1.50

The story of primitive man, the Orient, Greece, and Rome is followed by a sketch of European history to 1715. Part II (Robinson and Beard) brings the story to the present time.

SHEPHERD, WILLIAM R. *Historical Atlas.* Holt, New York, 1911. $2.50

An assortment of excellent maps, especially useful for European history.

TURNER, FREDERICK J. *Rise of the New West, 1819–1829.* Volume XIV in "The American Nation." Harper, New York, etc., 1908..$2.00

This volume—written by the acknowledged master of Western history—deals with the development of the West and its influence upon our national life during an important period. The author devotes considerable attention to social and economic conditions and to the inter-play of sectional forces. Of special value is the chapter describing the formulation of the Monroe Doctrine.

WENDELL, BARRETT. *A Literary History of America.* Scribner, New York, 1901...$3.00

A literary history in more than one sense. American literature is correlated to English literature as well as to American history. The material is grouped interpretatively.

WILSON, GEORGE G., and TUCKER, GEORGE F. *International Law*, Silver, Burdette, and Company, Chicago, 1910..............$2.50
A concise and comprehensive volume on international law. An historical introduction is followed by sections devoted to the international law of peace, of war, and of neutrality. Appendices contain important documents illustrative of internationalism since 1850, as the declaration of London.

WOODBURN, JAMES A. *Political Parties and Party Problems in the United States*. Putnam, New York, etc., 1903............$2.00
This volume contains an account of political parties in the United States since the colonial period, with emphasis upon the period from 1787 to 1874. Considerable attention is paid to party machinery and to party reforms.

Although this list is intended primarily for administrators of secondary schools, yet it contains some books—as Bogart and Cheyney—to which high school seniors might be occasionally referred. Aside from Channing, Hart, and Turner's Guide, teachers and superintendents who wish further bibliographical suggestions will find aid in various volumes in the above list. The volumes of Bourne and Hazen on European history contain bibliographies, general and special, of their respective fields. On the bibliography of the financial history of the United States, Dewey is extremely useful. McClain's volume contains a select bibliography on constitutional law; the footnotes in Fish's Diplomacy furnish references to choice material; while Hart's volume introduces the reader to a variety of works upon the elusive Monroe Doctrine. The Riverside History furnishes many brief bibliographical notes. "The American Nation"—the series to which Turner's volume belongs—contains extended bibliographical lists upon topics in American history. Such teachers as wish further guidance in their historical reading will find the "History Teacher's Magazine" and the "American Historical Review" most useful publications. Obviously, the compiler's viewpoint in selecting this list of books for those persons engaged in secondary school work was historical. More or less consciously, he grouped his brief bibliography around works on history—the parent science. His conviction is that in our high schools, at least, civics and economics and history should not be viewed as separate and distinct subjects. In its broad sense, historical study should be a correlating and coördinating factor in the curriculum, as well as a force making for good citizenship and international comity.

HISTORY IN THE HIGH SCHOOL CURRICULUM*

Carl Becker

Professor of History, University of Minnesota

IN his recent book on the Teaching of History Professor Johnson says that "At the present time history seems to be losing rather than gaining in favor with school administrators." I have no doubt that this is so; nor any doubt that one of many reasons for the fact is that the actual educational value of history in high schools is far less than it was supposed, twenty years ago, would prove to be the case. Now, one of the fundamental difficulties in connection with the organization of history for high schools arises from the fact that it is extremely difficult to distinguish what is proper to an elementary course. This difficulty scarcely arises in mathematic, for example. Arithmetic, algebra, geometry—these are well defined elementary courses, constituting a necessary preparation for further work; they have a definite and concrete subject matter which can be taught in a definite and concrete manner and with definite and concrete results. And arithmetic, at least, is not only the most elementary but the most universally useful of all mathematics.

It is quite otherwise with history. What is an elementary course in history? Ancient history is elementary in that it furnishes a preparation for later history. But in itself it is no more elementary than any other, whereas a knowledge of it is less useful than a knowledge of contemporary history. Practically, we say that the whole field of history shall constitute the subject matter of the elementary course. Four years is necessary for this course, said the Committee of Seven. But in Kansas few schools even offer four years, and few students take more than two; and the demand now is for a two year course, or at most a three years course, that shall cover the entire field. It is not difficult to see that such a course must be elementary in a bad sense; it is comprehensive and preparatory at the expense of being highly superficial, and by dint of conveying a body of facts which is of singularly little value either as information or as a basis for mental discipline. Again, this sort of an elementary course makes it difficult to obtain competent teachers. Is it not true that a man may be an excellent teacher of high school algebra and geometry without much knowledge of high mathematics? But it is impossible to teach even the most general course in medieval and modern European history well without having studied European history long and intensively. One might say that the more general the course the more difficult it is to teach it well. Yet the poor high school teacher of history is expected, like Bacon, to take all knowledge as her province, and to have a more comprehensive grasp of universal history than the College professor!

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* **Author's Summary of an address before the Kansas history teachers, at the High School Conference, held in Lawrence, Kansas, March 17, 1916.**

What is the result? The result is I think that high school students emerge from their history courses with a very slight and not very useful body of knowledge about the past, and with a capacity to think historically that is in no proper proportion to the time spent in such courses; for the most part they have memorized a few facts which mean little, or a few vague generalizations which mean even less.

What is the solution for this fundamental difficulty in respect to the curriculum? Frankly, I do not know. But it seems clear that some radical reorganization of the curriculum is necessary. The value which the study of history undoubtedly may have, and which it therefore should have for high school students, will not be obtained I am convinced until the student is made acquainted much more intimately with characters and events and those complex and concrete situations which alone make the past real and give to the study of it a practical and a disciplinary importance. This cannot be done without limiting the field covered. Perhaps the field should be contemporary history; perhaps it should be the history of our own country. In any case I doubt whether any satisfactory solution will be found so long as we continue to give distinct courses in history, economics, civics, and sociology. Why would it not be possible (it would be difficult certainly) to organize a single course, of one, two, three, or four years, which would embrace all that the high school gives in the so-called social sciences; a carefully coördinated course in which history, economics, civics, and sociology should all find their properly related place? Meantime, I am perfectly willing that someone else should attempt to organize this ideal course.

THE NATIONAL SOCIAL SCIENCE SERIES

Jesse H. Newlon
Decatur, Illinois

THE *National Social Science Series** is evidently intended primarily for the adult general reader. It will prove of immense value in the teaching of civics, economics, and sociology in secondary schools.

Each of these delightful little monographs is by an expert recognized in his field. These books contain from a hundred and fifty to a hundred and seventy-five pages each, every page lucid and interesting.

The greatest handicap, at the present time, in the teaching of the social sciences in secondary schools is a lack of reference material adapted to the capacities of boys and girls of the high school age. About the only available books of reference in these subjects, with a few shining exceptions, are college text books which are too difficult for the high school student, and books intended for general readers which are likely to be both too verbose and too difficult, and often not scientific. There is a need for a body of literature in the fields of the social sciences and history written with a view to supplementing the texts in these subjects in high schools. Such a body of literature would serve not only the high schools, it would probably have a wide circulation among adult readers for the reason that it would at once, perforce, be scientific, interesting, and readable. There is need for literary style here.

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* The National Social Science Series, Edited by Frank L. McVey, Ph.D., LL.D., President of the University of North Dakota, Chicago, A. C. McClurg & Co. Each volume 50 cents.

Government Finance in the United States. Carl C. Plehn, Professor of Finance in the University of California.

The Cost of Living. Walter E. Clark, Professor and Head of the Department of Political Science in the College of the City of New York.

Trust and Competition. John F. Crowell, Associate Editor of the Wall Street Journal.

Money. William A. Scott, Director of the Course in Commerce, and Professor of Political Economy, University of Wisconsin.

Taxation. C. B. Fillebrown, President Massachusetts Single Tax League, Author of A B C of Taxation.

The Family and Society. John M. Gilette, Professor of Sociology, University of North Dakota.

Banking. William A. Scott.

The Cause and Cure of Crime. Charles R. Henderson, late Professor of Sociology in the University of Chicago.

In Preparation

Property and Society. A. A. Bruce.
The American City. Henry C. Wright.
Statistics. W. B. Bailey.
Basis of Commerce. E. V. Robinson.
Women Workers and Society. Annie M. McLean.
The Newspaper as a Social Factor. Allan D. Albert.
The Struggle for Land in America. Charles W. Holman.

The volumes of the series under review should serve just this need. With one or two exceptions they are within the grasp of the high school junior or senior. Such a book as the one on "Money" or the one on "The Cause and Cure of Crime," will, if properly used, mark the beginning of a new epoch in social science teaching in the secondary schools.

In what has been said above no attempt has been made to evaluate all these volumes nor to put them all in the same category of usefulness for secondary schools. The volume on "The Family and Society," for example, may be a little beyond the high school student. Nor does what has been said imply agreement with all the theories advanced by the authors. For the most part the theories advanced have been generally accepted by scholars as sound. If some of the theories advanced are still in the realm of speculation, so much the better; it will be the means, perhaps, of stimulating thought.

Without attempting to pass judgment upon the merits of each book in the series I want to commend most highly the idea of the series. It is capital. The editor, President McVey of the University of North Dakota, may or may not have had in mind the possibility of this series serving secondary schools in the manner swhich I have indicated. However that may be, he is in fact doing pioneer work in this field.

LIBERALIZING COLLEGE ENTRANCE REQUIREMENTS

Supt. P. W. L. Cox
Solvay, N. Y.

SLOWLY liberal arts colleges are increasing the flexibility of their curricula and their entrance requirements. This they are doing in response to very definite social and educational demands. Those colleges which have defied these demands are paying a severe penalty. The freshman class of an eastern college that stands for abstract "scholarship," this year numbers about thirty students, of whom, I understand, only twelve are new men; the normal entering class has been nearly a hundred. Most colleges now supply education which functions in the solution of economic, political and social questions; but the college has unconsciously and unintentionally tended to suppress much worth-while education in the public high schools, through arbitrary entrance requirements.

The time has gone by when private conservative institutions should exercise any large influence on the public schools which are supported by the people.

As the social and natural sciences have won for themselves larger recognition in the colleges so they must have more general recognition in the high schools. In response to this situation as set forth in the report of the committee on articulation, several definite concessions have been made by the colleges—but the repressive hand of the college has still a firm hold on secondary education. Partly does the grip make itself felt through the untrained college girls who enter high school work, and partly through that concrete expression of an obsolete conception of education, the examination, by which the success of the teachers is measured. So long as teachers are judged by the results of examinations, so long will the dead hand of the college be felt in the secondary school.

This is largely due to a pitiful lack of clear thinking on the part of the college as to what is really needed in the way of preparation. The college has a right to require certain subjects of general culture and instruction, English, social science and laboratory science. The kind of courses given by the college should determine the other requirements for preparatory work. An engineering course should prescribe mathematics, a teachers course, languages, etc.

When one conceives culture for life in a democracy as something bigger and deeper than mere glibness of speech, tricks of oratory, the mastery of certain conventional abstract formulae of mathematics and science, and names or dates of history, he must recognize that all education must rest firmly on its value as a preparation for citizenship if it is to justify itself. For democracy wants intelligent, interested citizenship with high ethical standards. Second periphrastic conjugations and literal quadratic equations do not make for this.

It is increasingly true that progressive high schools are becoming agencies of real culture. The election of courses that do not count for admission to college, but which are of intrinsic cultural and vocational value, is increasing. Courses in science and history are being given with larger aims in view than passing examinations on the facts covered by the courses. The high school is becoming an active agent of education; it is no longer primarily a preparatory school for college. This is true even though conservative public schools will continue to prepare largely for college entrance, and will begin the round of examination questions in March and drill on the mechanics of passing examinations from then till June each year.

But why now rehearse this? It has many times been presented before, and much more ably.

There are two reasons:

(1) The junior high school is the response of an awakened education to the social, psychological and vocational needs of all the community's children. If the desire for college credit for junior high school work should lead to accepting college domination in the English, science and history work, or even in the mathematics and foreign language courses, it would be far better to do without the college credits! The function of the junior high school, as an institution for testing out pupils, for socializing children, for vocational guidance, for decreasing elimination, must be safeguarded, even at the expense of the economy of time aim.

(2) The other reason has to do with the continued exclusion of able boys and girls from college simply because some established field of work is too difficult for their peculiar mentality. Swift [illegible] "Mind in the Making" cites a most amazing list of mental giants who failed in some phase of school work, among whom are such men an Darwin, Napoleon Bonaparte, Seward, Patrick Henry, Sir Isaac Newton, Wordsworth, Robert Fulton, Walter Scott, Lowell, Goldsmith, Emerson, and Daniel Webster.

If there is to be a prescription of nine units, would not social demands require two units each of social science and natural science? (See Commissioner Sisson's article in October issue of EDUCATIONAL ADMINISTRATION AND SUPERVISION.)

The supplementary report of the N. E. A. Committee on articulation suggested the following modification:

"According to this provision, it would be possible under proper supervision to substitute the work in columns (B) or (C) for the work in column (A).

	A	B	C
English	3	3	3
Foreign language	2	2	0
Mathematics	2	0	2
Social science	1	2	2
Natural science	1	2	2
Total specified	9	9	9
to which must be added to make another major	1 or 2	1 [illegible]	1
Total	10 or 11	10 [illegible]	10

I am sure that the committee on organization and administration of the Commission on Reorganization of Secondary Education would welcome a discussion of these matters.

A SCHOOL REPORT BY A MODERN SUPERVISOR

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THE 1914–15 Superintendents' Report for the Des Moines schools promises to be a noteworthy contribution to educational administration and supervision. Assistant Superintendent Studebaker's section on spelling is out and if it may be taken as prophetic of the remainder, we shall have a document of great value. The report on spelling is distinctive in that it represents an illustration of what may be characterized as the *New School* of supervision. It shows a perfectly safe and sane use of the available tests, a graphic portrayal both of the 1914 status and the 1915 progress, helpful diagnoses of conditions, and constructive prescriptions.

Thus teachers are not told what they ought to do and what would be good to do; but they are *shown* (1) what they are doing, and (2) what they can do.

Some of the significant discoveries that were made as to the teaching of spelling in Des Moines in the fall of 1914 are:

1. The amount of time was of little importance as a determining factor in the resulting efficiencies.
2. The children of the teacher using the most time the first semester (200 minutes a week) were the lowest in efficiency (15%).
3. The children of the teacher using sixty-five minutes a week, which was next to the lowest time, ranked third in efficiency (64%).
4. The great range in the per cents showing the proper use of words the first semester, from 4 to 82 per cent, indicates the entire absence of a standard in this phase of the work.
5. A comparison of the difference between the use and spelling of words the first semester (19%) with the difference in the second semester (3%) indicates an effort to equalize these two abilities.
6. Along with a reduction in time of twenty-five minutes a week, the efficiency increased 25 per cent.
7. The improvement explained in No. 6 above was without doubt the result of two causes. (a) A decrease was made in the number of

words taught daily. (b) Important points in the teaching of spelling had been discussed with nearly all of the teachers in the city in several groups, and all teachers from the second grade to the eighth, inclusive, had worked through an excellent experiment on the method of conducting the spelling exercise.

Superintendent Studebaker comments on the above: "In order to 'cover' the established course outlined in the spelling book in use, teachers were attempting to teach during the first semester an average of ten new words each day, although some teachers were presenting twenty new words. The results are what might be expected under this cramming process with which the teachers as a whole have been quite dissatisfied.

"Only 42 per cent of the words were used properly in sentences and but 61 per cent spelled correctly. The spelling of words had been emphasized, while their meaning had been neglected. This is quiet natural. In the rush to complete the large number of words required in the book, teachers were forced to give their attention to but one phase of the teaching of spelling; namely, the order of letters. The difference in the pupils' ability to spell and use the words is 19 per cent. This means that these 898 pupils were unable to use 19 per cent of the 12,225 words the order of letters in which they had been required to memorize. The children in room 21 could spell 70 per cent of the words taught but could use only 9 per cent. In other words, 61 per cent of their effort had been expended on material which was useless to them.

In Life Outside and Beyond the School Children will not Misspell Words the Meaning of which they do not Know

"This is true because, unless in very exceptional cases, people do not attempt to write words which have no meaning to them. This confines their chances to misspell entirely to familiar words. Therefore, since children will be marked as poor spellers only to the extent that they misspell words already in their writing vocabularies, no matter how meagre these vocabularies may be; and since children cannot make intelligent use in writing of meaningless words, it is highly important that an effort be made in the teaching of spelling to

Equalize the Abilities of Children in the Spelling and Use of Words.

"The development of a high degree of efficiency in the proper use of words is a comparatively slow process because it necessitates the thoughtful establishment of many associations. The teaching of the mere spelling of words can be much more readily done because it is largely a matter of memory and can be accomplished through drill, which is the quickest way to get mechanical results in any field. To equalize the abilities of children in the spelling and use of words will, therefore, require that only a few new words, perhaps not more than five or six in any grade, be presented each day. This will provide an opportunity during a fifteen or twenty-minute period each day for teachers to do the kind of work necessary in teaching children to make intelligent use of words.

"It will be noticed that the median efficiency attained at the time of the last test was 76.5 per cent. Just what degree of efficiency might reasonably be expected can only be determined by further experimentation, but it seems proper at this time to state that teachers should set as their standard an efficiency of at least 85 per cent. It is very probable that with more suitable spelling material and a normal improvement in methods this standard might be made 90 or 95 per cent.

"In connection with this matter of tentative standards, it must not be forgotten that an efficiency of 100 per cent is probably not even theoretically possible under practical conditions. This is because all children are not present every day to profit by the instruction on all of the material which constitutes the final test. The tentative standard of 85 per cent takes these practical conditions into consideration.

"It is recommended that teachers make this sort of a test from time to time in order to ascertain the efficiency. If many words have been taught previous to the time of giving the test it would be advisable to take a random selection in order to minimize the amount of tabulating. To make a random selection, arrange the words alphabetically and select every other word, every third word, every fourth word, etc., according to the total number in the list.

"The writer fully realizes that an investigation conducted as explained above will result in a slight lack of uniformity among several investigators in the interpretation of the use of words, but these differences are not sufficient to vitiate results."

During the school year Mr. Studebaker made large use of the Jones "One Hundred Demons" and a tabulation of the results of the first test shows that:

"With the exception of one, all of the words were found in the writing vocabularies of fourth grade children.

" Among the 6,249 children in grades four to eight, inclusive, 2,648 pupils, or 41 per cent, misspelled twenty or more words.

" Three Juniors and one Senior misspelled twenty-five or more.

1,171	fourth	grade	pupils	(79%)	misspelled	more	than	20	words
331	"	"	"	(22%)	"	"	"	50	"
856	fifth	"	"	(54%)	"	"	"	20	"
94	"	"	"	(6%)	"	"	"	50	"
395	sixth	"	"	(33%)	"	"	"	20	"
20	"	"	"	(2%)	"	"	"	50	"
153	seventh	"	"	(14%)	"	"	"	20	"
2	"	"	"	(0.2%)	"	"	"	50	"
73	eighth	"	"	(8%)	"	"	"	20	"

" Eighteen other cities made about the same record. "

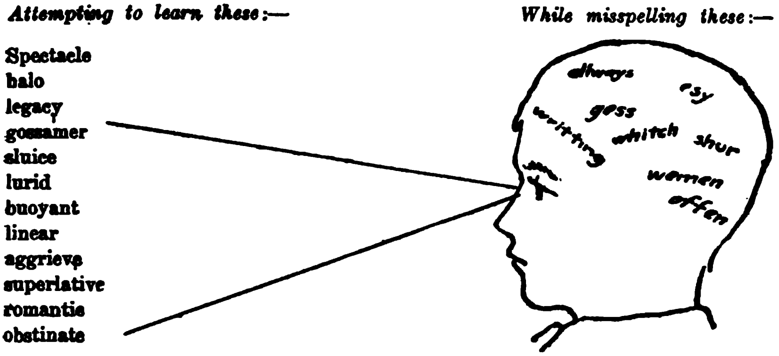
The conclusion drawn from these results is:

"In the light of these facts it certainly is not advisable for the present at least and probably never, to use time in an effort to teach children in the respective grades the spelling of such words as the following, selected from the spelling book in use:

Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade
sighing	salubrious	potential	rendezvous	phthisicky
cherub	infectious	ptarmigan	chapeau	magisterial
hyena	concertina	scullion	ancestral	ichthyology
barbarous	ludicrous	avaricious	intercessor	convalesce
luscious	spectral	predecessor	obeisance	abstemious
damask	plenteous	bituminous	dulcimer	calligraphy
verdure	intrigue	apologetic	antithesis	demoniacal
cylinder	calumet	dissyllable	diaeresis	saccharine"

Another important section of this study gives the report on the one hundred "demons" by forty-five second grade teachers. This report shows conclusively the futility of relying on the judgment of teachers as to what words to omit. To quote the conclusion, "this little record shows what always happens when a long list of words is furnished and teachers are requested to teach the ones which seem most practical." According to the above record there is not one word which some teacher would not teach in the second grade. Some teacher would teach "grammar," "separate," "hoarse," etc. This is further evidence that mere personal opinion cannot successfully select words.

Efficient use is also made of the Buckingham scales, and the need for elimination is graphically set forth as below:



(After Studebaker—Des Moines Annual Report, 1915.)

One question which many will raise is that of the advisability of spelling as such in the first grade. The reader is left in doubt as to whether the 85 of the 92 words of the Aldine Primer are to be treated as spelling *per se* or as a phonetic aid to reading. If the first grade list is frankly a reading rather than a writing list, and if taught as an integral part of reading and for the purpose of aiding reading it is probably permissible, but if it is taught for spelling values it is not in accord with avowed (and sound) principles underlying the remainder of the report; viz., *that such words as are not needed in the written language of pupils be eliminated from the spelling lessons.*

The constructive phases of this report are: a splendid minimum list for each grade; definite statement and a convincing illustration of the significance of personal lists for individual pupils; helpful suggestions for improving methods; and a clear statement of the importance of reviews.

Such applications of the scientific method are what will make education a science and supervision a respected profession.

BOOK REVIEWS

Cubberly, E. P. *Public School Administration.* Pp. XVIII + 471. New York: Houghton Mifflin Co., 1916. (Price, $1.75.)

Dr. Cubberley still continues to give schoolmen the benefit of his long experience and broad study of problems incident to the administration of our public schools. For a long while we have been in need of a general treatise on the problems of school administration around which to center our thinking and study of such problems. We have needed a book of principles; a book of fundamental starting points, rather than a book of reference as to what the custom has been, or is; a book provocative of discussion and constructive thinking. Students of school administration have been rather "at sea" without chart, compass, or course, and as a result we have had only scattered and sporadic rather than concentrated and consistent studies of school administrative problems. This present volume as one of the Riverside Textbooks in Education supplies the need.

Without being dogmatic and opinionated the book is very positive in its position on administrative questions. It lacks the judicial pro and con arguments so common in other books which have attempted to deal with administrative questions, and thus possesses the very necessary characteristic of asserting quite positively the working principles as revealed by custom and successful experience. In this way the book has force and appeals to both the lay reader and the professional student as virile and stimulating. It is interesting without being "namby-pamby," it is scholarly without being pedantic, it is positive without being offensively dogmatic.

The present-day theory as to the place of the history of education in our professional study is well worked out in practice here. The problems are all given their historical setting and the lessons to be drawn from a problem's historical development are clearly presented. In this way the history of any educational movement or personage comes to have significance and contributes to our understanding of the present-day problem.

Take, for instance, the chapter on county educational organization. The topic headings are: The county in school administration —Evolution of a county school officer—Early duties of the office—

New and changed duties—etc. Every topic, every feature is considered in its relation to a past situation. To one trained in studying pedagogical questions from the viewpoint of their historical setting, this book will prove highly satisfactory.

This volume, moreover, is only one of a series, all of them dealing with administrative questions. Here are presented the matters with which the superintendent, in a system with several schools, must deal. The questions which come up for the principal of a school or for a classroom teacher are reserved for later treatment as is also the problem of inspection and supervision of instruction.

The author has purposely and scrupulously avoided the presentation of many facts and figures dealing with administrative questions, in the thought that these are easily available from published school reports. If the book has a lack, this is it. There is existent no body of facts, reliable and trustworthy, about school costs and school accounting as standards by which to judge as to the merits or demerits of a particular financial matter. Who knows, with any considerable degree of accuracy and confidence, what the per pupil daily cost in second year mathematics ought to be? Or, make it easier, who knows what is a reasonable difference in per pupil cost for elementary school and for secondary school instruction? Superintendents do need more of these quantitative financial studies and would profit by them almost without measure.

As a means of making the book usable in college classes studying school administration every chapter has a set of questions for class discussion and for stimulating further thought along the lines treated in the chapter. Many topics are suggested for further investigation, study and report. Both these devices are so worded and so apt as to be of a high order. For those who care to pursue the investigation of any topic through parallel reading every chapter has appended a list of very carefully selected references.

A further characteristic is the very definite stand taken for public education as a state and not a local function, and for the equally positive position, as to the county being the most efficient administrative unit. Clearly and concisely are set down the very best principles as to powers and duties of school boards or committees and of the superintendents as well, be the unit what it may.

In fact, one has a feeling of very great satisfaction after having read the book and after having had time to consider it in various relationships. To the school board member who is eager for knowledge about principles of school administration it will be a god-send. To the over-taxed and burdened superintendent it will come like a breath of the fresh west wind. To the college student and teacher of school administration it will come as a solid hub about which to radiate in the study of present-day school problems. The principal, looking forward to larger administrative duties will find in it his present duties "writ large" and also a stimulation for the further study and greater understanding of his present problems. The class-teacher will get little from it.

Of necessity, the book is condensed and the treatment of many topics is even briefer than one might wish, but the essential points are always there and very careful and specific directions are given for finding the further details. Among schoolmen with a progressive professional spirit it surely ought to rank as one of the "six best sellers."

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FAY, LUCY E., AND EATON, ANNE T. *Instruction in the Use of Books and Libraries, a Textbook for Normal Schools and Colleges.* Boston: The Boston Book Company, 1915. (Pp. 449. $2.25.)

This book has grown out of the need for a textbook of library methods for students in Normal Schools, and for teachers taking summer school courses. It is the first attempt to combine, in one volume, a guide to the study and use of books and libraries; selected lists of children's books and books for high school libraries; and a practical manual for the use of teachers who are to administer school libraries. Suggested readings are given after each topic, and there are exercises planned to test the student's knowledge of the subjects which have been covered. Both books and libraries are studied in their historical development, from the ancient clay tablets of the Babylonian libraries to the products of type machines and electric processes, made accessible by modern methods of classification and cataloging. A list of reference books is given, each with an explanatory note of the special field covered, and of the value of the work as a tool for the teacher, the student, or the craftsman; the spacing of these titles makes the page trying to the eye, while a uniform system of entry would bring out the titles of new series, such as "Information," and the "Package Library." The inadequate book collections in school libraries are due to lack of standards in purchasing, quite as much as to lack of funds. The principles of book selection are well discussed in a chapter which names some specific tests which may be applied in judging books. This is followed by a list of five hundred books suggested for a High School library.

Perhaps the most valuable feature of the work is the excellent historical survey of children's literature, and the discussion of books for children. The lists suggest true and wholesome stories of adventure, nature books, books which tell how to do and make things, easy plays for children, and well-illustrated editions.

The section which covers the establishment, equipment and administration of school libraries might well be more extended and more definite. Five pages are given to Poole's Index to Periodicals, now discontinued, while the subject of state aid to libraries receives scant attention. There is need here for practical suggestions in regard to the aid given by the state library commissions in book selection, in classifying and cataloguing school libraries, and in loaning books to supplement small collections. Some other suggestions might be, the proper form for a book-order letter and more definite information in regard to the material available in government documents, and the procedure necessary to secure them from the Local Congressman, or from the Superintendent of Documents. It will be confusing to the untrained assistant to find three illustrations of cataloguing practice in the sample cards, and it would also seem inadvisable to name, without discussion, several varieties of library practice, such as omitting book numbers entirely, or assigning the symbol F for fiction. The suggestions as to quarter-sawed oak for shelving, and non-adjustable shelves of a yard in length, would probably not be accepted by all librarians as most desirable in the equipment of a school library.

It is difficult to combine historical material and rules of modern practice within the limits of a textbook. The book contains no dead matter, nor has it materially failed to cover the practical side of school library administration. It serves a good purpose in providing a manual which is adapted to the needs of schools, and is at the same time of recognized merit from the standpoint of the librarian. It is of interest to recall that at the meeting of the American Library Institute, in March, it was announced that several of the library schools had voted this one of the two best library economy publications of 1915.

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JUDD, CHARLES H. *Measuring the Work of the Public Schools.* Survey Committee of the Cleveland Foundation, Cleveland, Ohio. (290 pages. Price, 50c.)

In spite of disagreements among theorists regarding the principal aims of education, the fact remains that instruction in subject matter is the core of contemporary school work. The school lives in the class and study rooms; other matters, however important, are strictly supplementary. The key to the efficiency of an educational system is found in the results of its teaching. From this point of view the volume under discussion forms the heart of the Cleveland educational survey.

Ten thousand children, about 15 per cent. of the total school enrollment, annually fail of promotion in the elementary schools of Cleveland. This failure is most frequent in grades one, five, six, and seven. Assuming that non-promotion is caused by failure to pass in certain subjects, reading appears to be the responsible agent in grades one and two, arithmetic in grades from three to six inclusive, and grammar in grade eight. Grammar and arithmetic share the responsibility in grade seven. Geography runs a close second to arithmetic in grades five and six, while history is an important factor in causing repetition of the last two elementary grades. Attention must be focused upon these subjects at the stages indicated if the amount of non-promotion is to be reduced.

But the efficiency of instruction cannot be determined by the percentage of failure alone. It is even more dependent upon the achievements of those who pass. The present report makes no attempt to canvass results in all subjects, but selects handwriting, spelling, arithmetic and reading as representative. It is noteworthy that handwriting and spelling, which play a minor role in non-promotion, are here substituted for geography, history and grammar, which are more important factors. The reason for this substitution is plainly the fact that the investigator has at his disposal objective scales and norms in the chosen subjects, while reliable methods do not exist for measuring results in the more vital subjects. The reader is thoroughly impressed with the need for objective standards in these other fields.

When compared with the average achievements of children in other cities Cleveland children are found to rank as follows: in handwriting, below the average standard in grades five and six and above it in grades seven and eight; in spelling, around the average in all grades; in oral reading above, and in silent reading markedly below, the standards set by other schools. The "spiral" arithmetic tests, while derived from the Courtis series, are here applied for the first time; consequently no general norms exist for purposes of comparison in arithmetic.

Valuable as are the foregoing facts in determining the quality of Cleveland's teaching, other results stand out as more useful in fixing the responsibility for success or failure. Perhaps the most significant of these is the extreme variability among the results displayed by similar grades in different schools. This fact is typified by the quality records in handwriting. Among 36 fifth grades in as many different schools we find median qualities ranging from 32 to 60 on the Ayres scale. In 36 eighth grades the qualities range from 39 to 65. Comparison of the range of achievement of the different fifth grades with that of the different eighth grades brings out another striking fact. The majority of the fifth grades were writing fully as well as the majority of the eighth grades, and far better than some. So far as concerns quality of handwriting, therefore, many of the pupils of the fifth and eighth grades could change places without affecting the results. This same fact appears in comparing the achievements of these grades in all of the subjects measured, although it is less pronounced in arithmetic and perhaps in reading. A third type of variation is seen when, on comparing their achievements with the Cleveland averages, certain schools are found to excel the averages in certain grades but to fall far below them in others.

Two chapters are devoted to the relations existing between the elementary schools and the kindergartens and high schools. It is pointed out on the one hand that the kindergartens lie outside the control of the regular school authorities, that promotion therefrom on the age basis is unsatisfactory, and that the ends of kindergarten training are at present wholly undefined. The result is a lack of coöperation between the two units. On the other hand, it appears that while an increasing proportion of elementary school graduates are advancing into high school, the different elementary schools still show marked variations in this respect, as well as in the harmony of their relations with the high institutions. A method is exemplified for measuring the efficiency of different elementary schools in terms of the high school achievements of their graduates. Here again most glaring differences in schools are found.

The final chapter of the text is concerned with instruction in high schools. In the absence of objective scales for measuring achievements in special subjects, the "best basis on which to attempt an estimate of high schools is the routine record of ordinary work." Partly owing to the local policy of separating the academic from the commercial and technical high schools these three types possess very different standards. The academic schools attract from the elementary schools their younger, more proficient pupils. Non-promotions, failures and withdrawals are more common in the technical and commercial schools. But when the complications introduced by different subjects of study and periods of promotion are considered, the greatest lack of consistent policy prevails.

The main defects of the Cleveland schools appear to be as follows: (1) the course of study is too conservative, both in the variety of fields of subject matter offered and in the content of each field; (2) standards of achievement and promotion vary enormously from school to school; (3) the various units of instruction, kindergartens, elementary and high schools, are very inadequately correlated; (4) as the preceding statements show, supervision throughout the system is weak and decentralized; (5) there are no means in existence for discovering automatically the presence of these or other deficiencies. The recommendations made on the basis of these findings are comparatively modest. The two outstanding suggestions appear to be, first, that the supervisory agencies be more completely centralized, and second, that the local problems of instruction be constantly and consistently studied from year to year, with a view to increasing the efficiency of the supervisory department and of securing more uniformity in procedure and results where such uniformity is warranted. At present the instructional policies of the Cleveland system are obscure and chaotic; steps must be taken to render them orderly and intelligent. Many more specific suggestions are offered, to facilitate the needed changes.

Aside from the palpable service which it renders local authorities, the book has no small value for education at large. It is one of the clearest and most complete expositions available of the objective evaluation of instructional agencies in a city system. Board members, principals and superintendents will find here suggestions and methods for use in the study of their own local situation. The book will readily serve as a text book for classes in educational supervision. Workers in the field of educational measurements will find matters of special interest in the new "spiral" tests in arithmetic, and in the record of the first elaborate application of the Gray reading tests. Aside from these matters, the general student of education will discover a fund of new facts too numerous to be recorded here, and student and layman alike will possess a most readable example of the measurement of school achievement in terms of the newer pedagogy.

One defect stands out, i. e., a lack of continuity in procedure. The opening chapter leads the reader to question the system's instruction in geography, history and grammar, as well as in reading and arithmetic. In the intensive studies of results, however, spelling and handwriting are substituted for the first mentioned subjects. Again, in the study of high school instruction the objective scale method is dispensed with altogether, and a less satisfactory procedure adopted. The analysis of kindergarten efficiency runs along still different lines. While these different methods lead to practically identical conclusions, their presence reveals none-the-less the gaps in the present attainments of educational measurements. The author can in no sense be held responsible for this lack of continuity. Well tried scales for measuring results objectively do not yet exist in most school subjects, especially in those of secondary grade.

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SAMUEL CHESTER PARKER. *Methods of Teaching in High Schools.* Boston: Ginn and Company, 1915. Pp. 529 + xxv.

The basis for this review is the intimate acquaintance which comes from the use of a book as a text in a college class for a semester. This use has given an opportunity to test the suitability of the book for this purpose.

The scope of the subject matter can be shown best by the chapter headings which are as follows: Broadening Purposes of High School Instruction; Economy in Classroom Management; The Selection and Arrangement of Subject Matter; Types of Learning Involved in High-School Subjects; Acquiring Motor Control; Associating Symbols and Meanings; Practice or Drill; Reflective Thinking; Forming Habits of Harmless Enjoyment; Training in Expression; Self-Activity and Apperception; Influence of Age on Learning; Interests, The Basis of Economy in Learning; Adapting Class Instruction to Differences in Capacity; Supervised Study; The Use of Books; Conversational Methods; Laboratory Methods; The Art of Questioning; Practice Teaching and Lesson-Planning; Measuring the Results of Teaching; and Organized Observation of Teaching.

In these chapters Dean Parker has presented a wealth of pertinent, as well as many as somewhat irrelevant, details, written in a simple easy style that contrasts markedly with the involved sentences of many educational texts. In its logical organization, however, the book possesses decided weaknesses. No real underlying philosophy or system is evident. The details are presented one after another under the topic to which they relate but no hint is given to the prospective teacher of any plan for using them. When the student has completed a chapter no method of attack has been given and all he carries away is a mass of details and devices. Quotations are introduced promiscuously, often elaborating a point which was made in a few words by the author, himself, and which no one would question. Dean Parker expresses lack of faith in the efficacy of lesson types but offers nothing to take their place. Even so important a factor in present day teaching as the assignment is treated incidentally in a few scattered paragraphs.

The psychological terminology used by the author is inadequate and, in some cases, almost naïve. There are places where a few of the terms commonly used by present day psychologists would fill the void nicely. In other places the author has devised a terminology of his own to cope with the situation or borrowed it from questionable popular sources. These faults are in evidence especially in his discussion of attention and instincts.

A few of the chance remarks of the reviewer's students put the book in a nutshell as it is valued by them. One said, "I like it because you can always see what the author is driving at." Another said, "He is easy but he is all on the surface." A third volunteered, "Why does the author take so long to say anything?" It was the consensus of the class opinion that the book could be reduced one-half without leaving out a pertinent detail.

In its mechanical features the book exhibits points both good and bad. Bold type and italics are used liberally—perhaps too much so—to point out the sub-divisions of the book. Let this be considered a good point. But the disregard by the publishing company of the hygienic requirements of a good text—the paper is glazed, the type small and thin faced, and the lines close together—can not be condemned too severely. If we ever are to have text-books which are printed properly those who write them must insist that their books fulfill hygienic requirements.

Although this volume contains many valuable devices and suggestions it is faulty in its mechanical make-up and inadequate in its general treatment, and hence in many respects falls short in its attempt to meet the needs of a class in the methods of teaching in high schools.

C. E. HOLLEY.

Ohio Wesleyan University.

LEVI SEELEY. *Teaching: Its Aims and Methods.* New York: Hinds, Noble and Eldridge, 1915. (Pp. XI, 313.)

"The purpose of this book is clearly to set forth what teaching is and what we have a right to expect from it, what material should be presented to the pupils, what methods employed, and what the product should be."

These promises induce considerable enthusiasm for the book until a few pages have been pursued. For glittering generalities, for wide inferences from random personal observation, for expiation upon the obvious, in short, for superficiality this book scarcely has a rival of its kind, and it stands as a monumental piece of passing pedagogy.

The big *I* dots many pages and but little responsibility is thrown upon other writers. There are no bibliographies and foot-note citations number scarcely twenty-five. However, a few modern educators get honorable mention and even Dewey's name precedes a brief quotation of three lines. And this book is written for students of normal schools with the view "to open up to them the great problems of education that they are studying"!

It should be said for the book that it is written in attractive style. The subject matter is arranged in clear, effective form. Indeed most text book writers could well afford to take note of Dr. Seeley's mode of presentation. He gets down upon the learner's apperceptive basis—but one may doubt if the book lifts the learner very far therefrom.

GARRY C. MYERS.

Brooklyn Training School for Teachers.

Educational Administration and Supervision

Edited by
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EDITORIALS

The "Social Science" Department of Public High Schools

THE fact that we are speaking more and more of the "Social Science" work, or the "social studies," rather than of courses in history and in civics and economics in our high school programs means that the material of instruction is different and the educational aims changed.

The attention of readers of this issue is called to the various brief contributions bearing in some way upon the leading curriculum issue in the public high schools of today. Professor Becker, speaking broadly for professional historians as a class, explicitly recognizes the necessity of a reformulation of the aim of history courses and at the same time admits being appalled at the obstacles to be confronted by those who may have the temerity to attempt an immediate reorganization and project it for adoption by practical schoolmen. It should be noted here that the American Historical Association has a new committee at work upon a new definition of history for secondary schools, under the chairmanship of Professor Ferguson of Harvard. It is to be hoped that their report will do more than merely tinker in an academic way with the former reports of Seven and of Five.

MORE SOCIAL SCIENCE IN THE "UNESCAPABLE MINIMUM" FOR HIGH SCHOOL GRADUATION

Superintendent Cox proposes a thoroughgoing reconsideration of the administration machinery of secondary-school-college articulation in the interests of clearer recognition of the need for greater emphasis upon social science studies. Principal Newlon reviews a second notable series of volumes on the general subject and will from time to time deal with similar literature.

SOCIAL SCIENCE AND HIGH SCHOOL LIBRARY EQUIPMENT

Professor Robertson, by urgent request of the editor, consented to risk his reputation to the extent of characterizing and endorsing the books in his list printed elsewhere which in his mind cover the field in an elementary way. In presenting elsewhere this list with his authoritative comments we hope that every school now active in replenishing and adding to its supply of social science books may secure the entire set, or as many as possible. We venture even to hope that many high school teachers of history and as many school administrators, regardless of their penchant for any particular branch of knowledge, may provide themselves with a liberal selection of this same literature. Certainly the practice of dispensing generally this citizenship information indirectly as well as through the regular class room exercises is as necessary now as is the dispensing of particular information regarding occupations, business types, etc., at present becoming so popular. In addition it is capitalizing an interest on edge at present and probably never again to be aroused to a higher pitch. We have never in our school policy realized sufficiently the dependency upon books of the departments of English and of Social Science in our high schools. Indeed our organization, administration, support and policy for progressive development of high school libraries would almost convict us of educational blindness in certain directions.

PROFESSOR DEWEY ON SOCIAL PREPAREDNESS

Aroused as we in a measure now are regarding matters of preparedness, even educational preparedness in a vague superficial way, Dewey thinks "if long years of peace should by good chance succeed our present conscientiously maintained nervousness, we should relapse in our school teaching into the same sentimental seclusion from the world's affairs which dominates present instruction in history and social subjects.

> "An earlier generation received some seepings from biblical lore. There was some intimation of a world-history prior to its real commencement in 1492; there was at least a consciousness of a blank dimly dotted with Greeks and Romans and vague 'Europeans' between the end of Jewish and the beginnings of American history. Today the pupil who leaves (and most of them do) before reaching the high school can only wonder at the odd selection of 1492 as the numeral for the year one, and can proceed through his course of American history with no suspicion of Europe save as a place from which discoverers set sail and colonists departed, and as an abode of men whose evil plans got good Americans into wars, and whose affairs and governments in general are such that the less Americans have to do with them the better. * * * * * * * I confess that there is something in this vast provincialism which is not altogether unpleasing. There is a sort of vegetative health in the self-sufficiency. But nevertheless it is dangerous. Facts have changed."

Professor Dewey goes on to show how actually we have changed and how now our industry and commerce have interwoven our destinies to such an extent that our older state of mind is dangerous. He indicates a different way of teaching American history, for example, as in a way largely a reflection of European movements and problems, waves of immigration, and various native interests which solely correspond to the operation of world-wide forces. "A generation educated in the *facts* of American history instead of in an American mythology would not be at a loss to find and express a unified mind in a crisis like the present, should one recur." He does not like our school books in civics "as colorless as chalk" and our other treatments of other topics in social studies with their "tepid characterlessness." "The whitewash of indiscriminate eulogistic language covers the things which make social life difficult, uncertain and interesting." The high school student must see that there is now as there always has been a "struggle between interests entrenched in law, institutions and social convention, and the requirements of further enlightenment and emancipation." A nation must be habituate to think in terms of problems and of the struggles to remedy them before it is "in the grip of forces which create the problems." If we with our democratic freedom in school affairs could achieve this our nation "would have an equipment for public life such as has not characterized any people." We must not expect something called "democracy" in the abstract to work miracles in our behalf as we drift without a definite policy. Rather by an "intellectual habit of coherent thinking in matters of foreign relations," in meanings of nationalities, shall we make "democratic control" of social affairs spell genuine familiarity with "the weak places, the dark places, the unsettled difficulties of our society." Although universities should of course lead the way, "unless the methods of critical discrimination which they foster extend into our secondary schools and thence, indirectly at least, into the elementary schools, we shall find democratic control tied to a course of inert drifting alternating with periods of excited explosion. To make our schools the home of serious thought on social difficulties and conflicts is the real question * * * *"

C. H. J.

The After-training of Teachers

In proportion as increasing demands for greater efficiency are made upon teachers it becomes evident that training prior to their beginning service at best constitutes only a part of the entire professional preparation they should ultimately receive. Definite attempts must be made to provide more effective additional training for teachers in active service. For many years teachers' institutes, associations and conferences have been the only means of such after-training, and while they have rendered substantial service, they are now proving inadequate to meet the modern needs. Radical developments are necessary before a satisfactory character and degree of after-training can be secured. The basis for such developments will probably be obtained through legislation and administrative measures, designed to accomplish definite objects as to length of the period of employment of the teachers, adequate compensation and requirements for prolonged professional training. It is here suggested that—

1. All teachers be under service throughout the year and be paid in 52 weekly or 12 monthly installments.

2. A definite program for the employment of the teacher's time for each year should be approved by the school authorities, which program should include time of actual teaching, time for professional self-improvement and a definite vacation period.

3. For example, a program for a young teacher might be as follows: thirty-six weeks' actual teaching in school; two weeks' incidental vacations throughout the year; four weeks of a definite summer vaca-

tion; and six weeks' attendance on a summer school. Under other circumstances, and for more mature teachers, attendance on summer school might be replaced by special teaching in vacation schools or in summer camps or by travel, or by any one of several other possible means of professional self-improvement.

This tentative program does not cover the fifty-two weeks of the year. It is generally agreed by educational administrators that if teachers would report at least a week prior to the opening of the schools, and remain a week after the close, the benefits would be marked, and especially so in the case of country schools and of teachers beginning service. It should at once be apparent that a week spent before the opening of the school year, and another after the close of the year, for interviews with individual pupils, adjusting records, and arranging for the satisfactory inaugurating or closing the work of the year, would result in enhanced efficiency of the school during the period in which classes are regularly in session.

These proposals are submitted in the conviction that the professional after-training of teachers must, much more than heretofore, become a systematic and effective affair in educational administration. Salaries of teachers must be increased because of added expenses and responsibilities, but, soundly administered, the above program would certainly lead to a substantial gain in teaching efficiency. Teaching would become more professional in character, and the school authorities, in approving the year's programs of the teachers, would gain a keener appreciation of the desirability of rewarding them for special efforts to improve their professional equipment.

D. S.

BOOK NOTES

(More extended reviews of some of these books may be expected in later issues)

LEONARD P. AYRES AND MAY AYRES. *School Buildings and Equipment.* Cleveland Educational Survey. L. P. Ayres, Director.

Buildings and Equipment are here discussed from the points of view of general utility, hygiene, safety, and costs. The authors have little adverse criticism to make of recent developments in school architecture in Cleveland. Cleveland has been, probably, the most generous and far-sighted of all the large cities of the country in providing the right sort of material equipment for its schools.

Report of the Work of the Bureau of Education for the Natives of Alaska 1913, 1914. Bureau of Education Bulletin No. 48, 1915. (Pp. 52, iv. 20 cents.)

The work now being done in the way of educational aid to the Natives of Alaska is described, and the urgent need for more abundant and more certain funds is emphasized. The work of education is shown to be very largely a work of enlightenment in regard to hygiene. An energetic campaign is being carried on against the too-prevalent tuberculosis, rheumatism, pneumonia, and venereal diseases. Co-operative native enterprises of all sorts are being encouraged.

LUDIA R. BLAICH. *Three Industrial Nations.* New York: American Book Co., 1915. (Pp. xii, 366.)

This book represents a novel departure from the rule of geography texts for the grades. The author asserts that the common error of elementary texts in geography has consisted in their endeavor to cover every corner of the globe. She has chosen to confine her treatment to three nations; The United States, England, and Germany. These are treated from the industrial point of view. She has endeavored to omit the incidentals and the less important details, with which she thinks former texts have been too much occupied.

HENRY ELDRIDGE BOURNE. *The Revolutionary Period in Europe (1763–1815).* New York: The Century Co., 1914. (Pp. 494.)

This comprehensive single volume by Professor Bourne covers in a very satisfactory way the revolutionary period and well supplies the reader with a treatment of this fascinating period of history which may be supplemented by Hazen's *Europe Since 1815*, noted in a previous issue.

Frank Forest Bunker. *Reorganization of the Public School System.* Bureau of Education Bulletin No. 8, 1916. (Pp. 186 + iv. Price, 20 cents.)

Each of the three departments of education; elementary, secondary, and higher, or college, sprang up in response to different demands. We have, at present, a definite chronological order, but the organic relation between the three have not yet been realized.

With this introduction, the author proceeds to trace the efforts toward reorganization through the work of the famous Committee of Ten; the demands for a junior high school organization, which came with the present century; and finally, he gives a picture of the practice where a scheme of reorganization has been adopted.

Symposium on Speech, Voice, and Hygiene of the Vocal Tract. Published as the April issue of the *Journal of Ophthalmology, Otology, and Larynology.* Achey & Gorrecht, Lancaster, Pa. (Pp. 75. Price 35 cents.)

The entire space of the April number of the *Journal of Ophthalmology, Otology, and Laryngology* was placed at the disposal of the "Committee on American Speech"; Dr. Burton Haseltine and Professor John M. Clapp of that committee secured twelve other contributors, their fourteen articles comprising a "Symposium on Speech, Voice, and Hygiene of the Vocal Tract."

The title is fairly indicative of the contents. After a general survey, a group of papers discuss the subject of speech defects from the point of view of the nose and throat specialist and the dentist; the school and stage are next heard from; representatives of two large businesses follow; and the series is closed by a commendatory review of a new book on voice production.

The medical articles are not too technical for the layman whose understanding is also assisted by some thirty diagrams and photographs. For the general reader perhaps the most arresting observation is contained in a quotation from Dr. William Healy of the Juvenile Psychopathic Institute in Chicago: "We have been tremendously impressed with the influence which a speech defect has upon the personality of the offender. . . . Character deterioration has been made much of by specialists in speech defects." This influence, he explains, makes for anti-social behavior. It is just the social value of good speech which, naturally, the teachers emphasize most. Finally, though business effectiveness is the prime consideration of the two men who write very interestingly about the training and supervision of telephone operators in the Chicago Exchange, it is frankly recognized by them that good speaking is good business largely because of its social and aesthetic value. It is a unique collection and well worth reading.

John Dewey. *The School and Society.* (Revised Edition.) Chicago: The University of Chicago Press, 1915. (Pp. xv, 164.)

In his new edition of *The School and Society* Dewey shows that the past twenty years have not witnessed a change in his educational principles, advanced in the earlier edition. The first three chapters of the older edition are included in the present volume substantially unchanged. For the fourth chapter, describing the work of the University Elementary School, are substituted five chapters; The Psychology of Elementary Education, Froebel's Educational Principles, The Psychology of Occupations, The Development of Attention, and the Aim of History in Elementary Education. Those who were readers of the Elementary School Record years ago, will recognize in these five chapters articles which appeared in that journal.

The substitution made in the late edition is a distinct addition in that it makes available valuable material which would not otherwise be generally accessible, and in that it contributes to a more nearly complete development of Dr. Dewey's educaitonal theory in one volume. Nevertheless, readers of the older edition will feel a loss in the omission of the attractive and personal element contained in the treatment of the experimental school.

Carl Russell Fish. *The Development of American Nationality.* New York: American Book Co., 1913. (Pp. xxix, 543.)

A standard and authoritative and also very interesting treatment of a subject about which it is more and more necessary for all American citizens to know something. Such books as this should be in all high school libraries.

R. S. Kellogg. *Teachers' Cottages.* Published in Coöperation with the Bureau of Education, 1916. Free on application to the Bureau of Education. (Pp. 58.)

The movement toward providing cottages for teachers, especially in the small schools and rural schools, is growing rapidly all over the country. This movement should make of the "floating teaching population" a much more permanent and a much more efficient body of teachers and citizens.

First Annual Report of the Hygienic Institute Department of Health for La Salle, Peru, and Oglesby, Illinois, 1915. (Pp. 65.)

The joint hygienic Institute of these three small North Central Illinois cities submits as its First Annual Report, an account of its organization, the menacing health condition that called it into being, and its accomplishment in the way of providing better hygienic conditions in the three cities.

JAMES S. HIATT. *The Truant Problem and the Parental School.* Bureau of Education Bulletin, No. 29, 1915. (Price 5 cents. Pp. 35 + iv.)

Mr. Hiatt has made a study of the truant problem in Philadelphia, and has examined the parental schools in thirteen cities. He reaches the conclusion that the parental school is a very efficient agency for reclaiming youthful truants and petty legal offenders, and the fact that no more than twenty-four per cent. of these are returned after their first term in the school supports his conclusion.

M. E. HAGGERTY. *Arithmetic: A Coöperative Study in Educational Measurements.* Indiana University Studies. Indiana University Bulletin No. 18, 1915. Vol. 12. (Pp. 123. Price, 50 cents.)

The data on which this study is based are the results from the application of Courtis arithmetic tests to 8712 pupils in grades 4–8 in the elementary schools of twenty Indiana cities.

The data are presented in full, with the medians for each city in each of the four fundamental operations. From these data the author has derived an Indiana Standard. The feature of this Standard is its measure of Dependability or accuracy. The vertical lines on which are represented the standard number of rights and attempts are so placed and divided that a horizontal line connecting them at any point will indicate the Indiana Standard of Dependability. The vertical lines have numbered divisions on them, so that any number of attempts and rights may be shown by a line connecting the two. The angle that this connecting line from the line representing the number of attempts makes with the line representing the number of rights will indicate the accuracy of dependability.

This table of dependability shows what number of rights should be scored for any number of examples attempted, in order to equal the Indiana Standard of Dependability.

The author thinks that one of the most valuable things which his study brings out is the example of coöperation between scientific investigators and practical administrators.

He presents a valuable lot of data, the possibilities of which he does not claim to have exhausted.

Second Annual Conferences on Educational Measurements. Indiana University Bulletin, No. 11, Vol. XIII, Oct., 1915. (Pp. 221. Price 50 cents.)

The principal discussions of educational measurements at the Second Annual Conference on Educational Measurements were delivered by L. P. Ayres and S. A. Courtis. Both of these men went, at considerable length, into the theory of educational measurements; at the same time giving examples of the methods employed in deriving the scales and tests that are now used, and an account of some of the results which have been secured by the use of these scales and tests.

Mr. Huddelson gives an account of the use of the Harvard-Newton English Composition Scale in the schools of Bloomington. This is one of the few instances of the use of this scale outside of Newton, reported, and is, for this reason, of considerable interest.

WILLIAM ELLERY LEONARD. *Socrates, Master of Life.* The Open Court Publishing Co., Chicago, 1915. (Pp. vii, 118.)

The author has attempted "to re-interpret, imaginatively yet critically, an ancient personality that has too often become for the scholar merely one or another technical problem, and for the general reader too often a name or an anecdote." There is much life in the narrative, particularly in the descriptive portions of the little book, and those who wish to know about Socrates without having to wade through philosophical discussions will find the account refreshing and, we think from our own reading, inspiring. As the author says, "Among the moderns he has left his impress on men as different as Goethe, Emerson and Mill. But incalculable must have been his influence on the impressionable generations of European school boys from the dawn of the Renaissance, whose best-thumbed Greek prose texts have been these same Socratic records." "Nor alone on the European youth: though in our American academies today Greek have but one prophet to every ten or twenty for the kingdom of Mechanics, or the kingdom of Microscopy, of the kingdom of Manual Arts, the face of Socrates may appear at unexpected places and with something of the old look and power."

The traditional integrity of the aged Greek, who, when condemned to death unjustly and when friends opened for his flight the prison doors, refused to fly because it was against the laws of his country, may still help our high school boys to "sturdier manhood and more earnest citizenship." Another volume for the growing high school library!

DAVID MITCHELL. *Schools and Classes for Exceptional Children.* Cleveland, 1916. Survey Committee of the Cleveland Foundation. The Educational Survey. Leonard P. Ayres, Director. (Pp. 122. 25 cents.)

The author discusses exceptional children under two heads; the socially competent, and the socially incompetent. He tells what provision is made for such children at present, and makes certain recommendations in the direction of more adequate provision for such classes. He also discusses methods of selecting exceptional children, especially the use of the Binet tests.

ERNEST CARROLL MOORE. *What Is Education?* Ginn and Co., Boston, 1915. (Pp. x, 356.)

The author thinks one of the greatest needs both of teachers and of students is an elementary knowledge of the philosophy of education. He feels that our educational thought overlooks the essential unity of the entire educative process throughout all grades of schools, that we are confused as to the nature of our undertaking and that the very nature of knowledge must become again our chief concern. The volume consists of a series of essays on what is education, what is knowledge, on general discipline, education as word-building, kinds of education, learning by doing, the place of "method," learning by problem-getting, organization by selection, diagnostic education, and learning to work with concepts. The discussions of "problem-getting" and of "diagnostic education," the latter a discussion of examinations and educational "scales" and "standardizing tests," are particularly interesting. The author acknowledges his indebtedness to McMurry and Dewey.

The New York Times Current History: The European War. Volumes I, II. New York: The New York Times Company, 1915. (Pp. 1221, 1192. $4.50.)

These volumes contain each the most important literature of the particular six months of the war of which they treat. The discussions are chiefly more or less official and are impartial. The books are bound in cloth with gold lettering, and are well illustrated with cartoons, portraits of all the chief figures of the era, and numerous and valuable maps.

While these volumes are not exactly in the line of so-called school "social science" they still are in our judgment necessary additions to any high school library and to every personal library of up-to-date school administrators and particularly indispensable to teachers of history. Probably nowhere in the world is there published as comprehensive a collation of the best literature of the great European War. In addition to the chief official utterances and the collection of official documents permanent value attaches to the writings of the most eminent publicists, writers and commentators on the war.

Program of the Twenty-first Annual Meeting of the North Central Association of Colleges and Secondary Schools. Chicago. March 24 and 25, 1916. (Pp. 67.)

This report does not represent an attempt to cover in an exhaustive way the whole field of secondary school organization and administration. The committee has simply tried to state in this report, as clearly as possible, the present status of the junior high school in the North Central territory and, in connection with these ascertained conditions, to make certain recommendations.

One section of the report is devoted to a discussion of the Unit. Here the committee shows a decided tendency to transfer the emphasis from the quantitative to the qualitative character of instruction; from the time allotment to the aims and methods.

H. S. Richards. *Legal Education in Great Britain.* Bureau of Education Bulletin No. 18, 1915. (Price 5 cents. Pp. 20.)

This very brief paper contains some interesting points regarding legal organizations, practice, and customs in Great Britain, in comparison with legal practice in our own country.

Anna Tollman Smith. *Secondary Schools in the States of Central America, South America, and the West Indies: Scholastic scope and standards.* Bureau of Education. Bulletin No. 26, 1915. (Price 10 cents. Pp. 40 + iv.)

Typical programs of studies in the various South American countries are presented and the common elements, as well as the opposing tendencies, are pointed out. The contrast between the schools of Cuba and the schools of Jamaica bring out well the striking contrast between the two countries which have come under the influence of the United States and Great Britain, respectively.

Lewis M. Terman. *Research in Mental Deviation Among Children.* Stanford University Bulletin No. 2, Nov., 1915.

Terman tells of the one thousand dollar fellowship fund created by a gift from Dr. C. Annette Buckel, of Oakland; and a like amount set aside by Stanford University. The work planned is a scientific investigation of not only feeble-minded, delinquent, and psychopathic deviates, but normal children as well. A very good beginning has been made during the first year.

Marion Rex Trabue. *Completion Test Language Scales.* New York, 1916. Teachers College Contributions to Education, No. 77. (Pp. 118. Price $1.50.)

The author has devised a number of test sentences, based on the Ebbinghaus form of Completion Test. After much preliminary testing, certain test sentences were selected and these were given to approximately 6000 pupils in 7 states. The grading and evaluation of the sentences is based on the scores of these pupils.

The author has assumed that ability in this kind of completion test is rather closely correlated with "language ability," though he points out that he has not attempted to define "language ability."

The tests were given to elementary and high school pupils principally, and to a smaller number of college undergraduates and post graduates. Abilities in the tests by grades (1–12) shows approximately the normal curve of distribution in every grade except the 2d and 3d. The distribution in these two grades is very irregular, especially in the 2d.

The sentence tests are presented in graded series, each sentence with its particular value attached.

WALTERS, FRANCIS M. *The Principles of Health Control.* D. C. Heath and Company, Chicago, 1916. 476 pages; cloth.

A book for high school and college classrooms, dealing with the control of private and public health.

E. J. WARD. *The Schoolhouse as the Polling Place.* Bureau of Education. Bulletin No. 13, 1915. (Price 5 cents. Pp. 25 + iv.)

Mr. Ward writes enthusiastically in favor of transferring the ballot box from the contaminating atmosphere of courts and jails to the schoolhouses. Both the purifying effects upon the voters, and the educational effects upon the pupils, from the point of view of civic responsibility, are pointed out.

H. B. AND G. M. WILSON. *The Motivation of School Work.* Boston: Houghton Mifflin Company. (Pp. VI, 251.)

That children, like adults, do best what they like to do, and see reason in doing, is self-evident. The application of this principle to school work is termed Motivation; and perhaps the most taxing problem of the modern teacher is to devise definite, interesting, and compelling motives for all assigned tasks. This volume is a compendium of practical plans for motivating the school work in the various subjects of study, organized and compiled by the authors as a result of twenty or more years of actual experience in teaching and supervision. The authors have made it in response to a demand for this material in compact and accessible form. It will be invaluable as a plan book and guide in working out this most practical phase of modern education.

NEWS NOTES

James Burrill Angell

ON the first day of this month, in Ann Arbor, Michigan, occurred the death of a great American, James Burrill Angell, who was president of the University of Michigan from 1871 to 1909, and president-emeritus during the remainder of his life. As a student in Brown University he came under the inspiring influence of Francis Wayland, one of the sanest and most vigorous champions of modern educational thought and practice. Wayland's influence upon Angell is clearly manifested throughout the long period of the latter's administration of the affairs of, possibly, the greatest state university in America. Shortly after he had voluntarily surrendered the active direction of his presidential office, he said, so I was a few weeks ago informed by one of his personal and professional friends, that, among the ideals he had attempted to realize, these two had been considered by him of greatest importance:

> 1. To teach the people of Michigan that the state university was their very own, to do with it as they pleased, to make it a poor affair or a great affair, as they might elect. He was insistent that all her citizens should understand that the institution was not the property of the regents, the president, the faculty, the students, or the alumni, but that, whatever it might be, it was to be the embodiment and the expression of their own educational convictions.
>
> 2. To demonstrate to the people, the owners and the supporters of the university, that, besides rendering invaluable service in many other directions, its greatest contribution to their material and spiritual progress, consists of the academic and professional training of young men and women, who, after such preparation, will be found in all quarters of the state, teaching in the public schools.

His presidency was remarkable not only for its long duration and its unusual accomplishments, but also for the straightforward, nonpolitical, educational methods he employed. Such a man ought to be at the head of every state university, and I am hoping that the regents of each state university will consciously aim to elect such a man to serve as its chief executive officer, a great educational man, with a great educational record, with a great educational program, and with the great talent and courage necessary to accomplish notable and enduring educational results. To such a man, I am confident, would be freely given the cordial support of the university faculty, of the public men of the state, and of all other patriotic citizens who believe that the efficiency and the safety of all our schools are best guaranteed by placing at the head of each a man distinguished for professional educational leadership.

W. S. SUTTON.

Austin, Texas, April 4, 1916.

Mr. Ittner Resigns

THE St. Louis Board of Education on April 7th lost the services of Mr. William B. Ittner as architect. Mr. Ittner had been commissioner of buildings and architect for nearly eighteen years previous to 1910, and since that time, architect only.

If the St. Louis school buildings are noted nationally and internationally as examples of compact, economical planning, of refined, dignified designing, and of substantial construction, the credit is due entirely to Mr. Ittner. It has been his genius as an architect that has evolved several wholly new types of school plans, that has standardized construction and equipments, and that has adapted in a most appropriate and dignified as well as modern manner, the historic architectural styles to the schoolhouses of his city. The St. Louis schoolhouses have been an inspiration to every person who has seen them.

By resigning at the present time, Mr. Ittner has become wholly free to serve school boards and schools.—From the May issue of the *American School Board Journal.*

Edu

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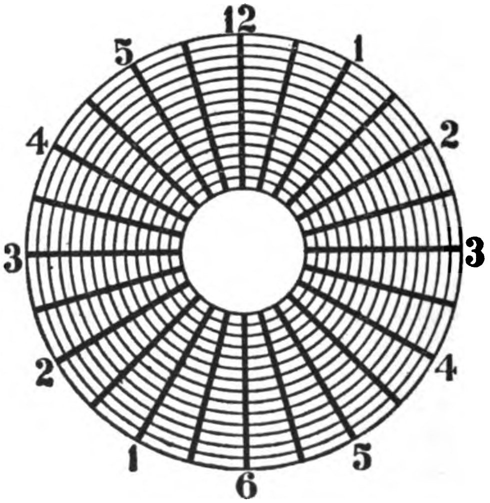

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

The Junior High School*

Charles Hughes Johnston

University of Illinois

THE Junior High School movement is sweeping the country. It marks a general educational reawakening, renaissance, reconstruction. This Association has made it first a field of investigation, then a propaganda and slogan, now a constructive program for development. The Department of Superintendence has embodied it in its resolutions. The U. S. Bureau stands committed to it. Many state departments are making it state-wide. Large cities are adopting it wholesale. Small cities in impressive numbers and with impressive administrative originality are making their own ingenious adjustments to the idea. Surveyors of all kinds can think of no recommendable school policy that does not specifically incorporate junior high school features. Local city politics finds it useful, popular. All sorts of propagandists like it. Co-operating agencies affiliating with public schools (library associations for example) see in it something promising. University departments of Education and Normal Schools and all other agencies for preparing teachers are finding new aspects of professional preparation for this type of teaching, new educational ideals toward which to point the intending teacher. Text-book houses with the expected enterprise are announcing new junior high-school series of text-books, heralding, they claim, an education with new and invigorating ingredients. Teachers' employment agencies have begun to use the new term and to recommend for positions those with the newly required qualifications. Standing "expert" commissions of inquiry (your own national commission on Reorganization of Secondary Education and the North Central Association Commission on Unit Courses and Curricula) are preparing large areas, in fact the whole country, for the intricate kinds of inner readjustments the adoption of this fundamental change in school policy calls for. There are now educational courses in our colleges and normal schools in the junior high school problems, given by "experts." There is a literature, a terminology, a lingo, a cult, an educational philosophy, an educational party.

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*Address before the general session of National Education Association, July 6, 1916, New York City.

Recently a well-known educator was invited to address a state teachers' association by debating the affirmative of the proposition that junior high schools could be made an integral part of our public school system. He replied that he would debate this question anywhere if there could be found anyone who would consent to take the other side. One was found to make the sacrifice. They still exist. What is more difficult to find is their real objections to the fundamental educational ideals we have come to associate with, indeed to identify with the Junior High School Idea.

There are, however, we must continue to realize, *two distinct educational parties* with genuinely opposed platforms—unlike, you will notice, our present political parties. One party banks on tradition as such. It thinks our educational history has developed by some inevitable law of growth, that it now represents an institution possessed of virtues which come from such bona fide and vast experimentation as has characterized that of our educational machinery. This party is historically minded. What we have represents about what we should have. The fate of schools is in the hands of destiny. The architecture of our present administrative structure therefore has something sacredly American about it. This party is conservative and has seen by experience just what ordinary school-keeping is and just how difficult and almost hopeless a thing it is actually to renovate the whole plant. They too know the educational machinery of the other national educational systems. They are impressed with the fact that these great and *so-called civilized nations* have not accepted the sorts of educational innovations and astounding extensions and differentiations of functions which such a fanciful conception as the Junior High School suggests—and really means to its proponents. Democracy to this party means as much democracy as, in the judgment of its leaders, the teachers and the scholars and other participants in the educational process can stand without practice. They start with the school machinery and, thinking in its terms, allow as much of democracy as its terms will connote without too much stretching.

There is another party. This second party begins with democracy and its needs and thinks into this social and industrial setting just the kind of education it seems to require. This party is made up of the more radically minded temperamentally. They think with amazing confidence of what the educative process is capable of becoming. As with their modern conception of democracy so they start with a modern conception of the psychology of educative processes, that they are *expressive* processes, that knowledge is a real process, a real method of expression, and hence that all school exercises such as reciting, studying, student activities, auditorium performances, shop trainings, laboratory techniques, "projects," "socialized" class meetings, and other new and more intimate sorts of exercises with the supposedly hopelessly academicized "humanity" subjects must smack of realness. Thinking thus of the entire educative process this party tends to think of new and novel and often also confusing ways of giving opportunity to these new demands—ways that make the old type of formal school-keeping itself look unnatural. The Junior High School is their opportunity.

With the new political and civic ideal and the new psychological goals we have this party actually adopting a new philosophy of life, and "educational realism," a new scale of values, a new theory of what constitutes reality. Theological dogma and, in this case, literary formalism cease to be the creators, or carriers of our realities. Politics and science and industry and war make a new realm of values, point a new goal of education.

With this the new party has also become imbued with the notion that our ideal of universal education is low, and our method of allowing a wrong selective principle to work in creating an eighth grade dead line is un-American. This new party rejects all European notions of the necessarily selective character of secondary education. This party wipes out every distinction between elementary or common school education and public secondary school education. *It gives in the whole history of the world a new definition of secondary education. It creates a junior high school transition stage* which will tide over the gap which has baffled all dreamers of universal education since the day dreams of Horace Mann. With this new ideal of a new universality and non-selective education reaching beyond the eighth grade have come economic conditions which make practically immediately realizable this pushing upward and this liberalizing and enriching of the common school's instructional program.

One other factor operating in the minds of this new party regarding the immediate possibility of graduating from the junior high school rather than from the eighth grade as the rule is the realization that *in academic achievement* the American boy at the end of the ninth grade has not by 2 years done the equivalent of the French or German boy who finishes the eighth year in the common school.

On the other end of the reorganized secondary school in America is to be noted the fact that in the present stage of our educational development the public high school must take on for the state's necessity, some professional or vocational functions such as teacher training, practical engineering, etc. All this *upper extension* is bound up with the junior high school unit as it is supposed to function in the new complete system. This new party possesses educational courage to the point perhaps of recklessness, stands for experimental methods to the point of extravagance, for the conscious exercise of new mental processes and for the vigorous extension to new boundaries of its field of service.

What is meant by the junior high school? One writer thinks the junior high school is a school made up of the upper grades (7th and 8th) and the lowest grade (9th) of the present high school, and "organized after the plan of a high school as regards curriculum, nature and method of recitation, instruction and supervision." This, the author says, is the "real junior high school—the school of tomorrow." Another says it is a school of these same grades or even of the 7th and 8th grades "which offers regular high school subjects" and also "prevocational education" whose purpose of existence is "congregation and segregation"; congregation from many surrounding elementary schools and segregation from them into a new atmosphere where indeed, for educational purposes, different groups of these pupils can be given different trainings in certain subjects. Neither of these definitions is at all adequate to the variety of junior high schools in existence, to the distinguishing purpose of junior high schools, or to what should characterize the ideal junior high school. Defining the junior high school in the narrow but more nearly correct sense as a special institution, we should say that, in intent, it is that portion or department of the public school system above the sixth elementary grade, including the 7th and 8th, and usually the 9th also, which is organized under a distinctive internal management with a special principal and teaching staff, or under a six-year secondary school department divided into a junior and a senior high school of three years each, with one general management. Such a school in these first three years, provides for departmental teaching, partially differentiated curriculums, for prevocational instruction and for systems of educational advice and guidance and for supervised study. No definition which merely says it is an institution which shifts the 7th and 8th grade boys from elementary school to high school properly represents the ideal of this school.

This is after all, however, but a narrow and technical definition of the junior high school. The adequate definition must be in terms of the profound meaning of the movement—if it is profound. The junior high school in this deeper sense suggests the breaking up of our elementary-secondary public school system into smaller, more intelligible and less unwieldy administrative and curriculum units. It is but a rediscovery of what European nations, in their more intensive cultivation of the restricted and selected field of secondary education, have found to be an administratively and pedagogically necessary arrangement. Thinking from the point of view of American democracy we have first thought all *into* the secondary system as a matter of citizen's right. We have not thought yet sufficiently of how to group and adjust our administrative machinery and instructional program to them now that we have them enrolled. European school builders and curriculum makers, thinking not of how to populate secondary schools but how to select, have had their genius challenged not with a condition of democracy but with the problem of how best to organize logically, and hence economically, the various subject matters offered throughout the twelve years of the complete selective secondary school period. They are ahead of us therefore in economic methods of breaking up into curriculum units the twelve year stretch of education which we in America wish to make as nearly universal as possible. The French "cycle" scheme for curriculum organization represents an established principle of curriculum construction which the junior high school promoters have been quick to adopt in theory. To effectively practise this fundamental principle will take time. A reconception of subject matter of public education in terms of one six year elementary functioning unit, one intermediate three year transition period, partaking in content, method, administration and school atmosphere of both the elementary and the secondary, and one three year period of genuinely secondary work, is fundamental indeed. Nothing less than this is the real meaning of the junior high school. It is no wonder that the courageous who have accepted the educational challenge of this opportunity are floundering.

Despite these bewildering and often vague aspects of the movement as a whole we are already able to draw an attractive picture of the modern junior high school which is to be.

It is the American common school breaking into the secondary field. To appreciate the democratic significance of this we have but to imagine the Folkschule graduate invited to go ahead in the Gymnasium.

The *pupil population* of the junior high school will include not only those now in 7th and 8th and 9th grades, but all of these ages now "overage" in the elementary 6 grades and all over 14 who for any reason are out of school. It is a pupil democracy. Russia has the most advanced stage today, and she has the most elective and exclusive literary cliques. She also has the fewest theaters and audiences, and the fewest elementary and secondary pupils—all drawn from the upper classes. The Great General Public in our country in education, as in drama, pays the piper and its pressing needs must call the tune—ragtime till it can be refined into Beethoven. So the Great General Public is now dominating the schools. It is taking over secondary education as well as elementary. With it, of course, must come fundamental changes, broadside readjustments. Our clientel has at last become this very same great, new, eager, childlike, tasteless, standardless, honest, crude "General Public." As for blaming anybody—for the schoolmaster at least it is poor fun to blame such a great primal force as Democracy. So much for the pupil population of our junior high school.

Its *material plant* has not been reduced to one type. However, these buildings are being planned for strictly junior high school purposes. Especially are they being so built as to emphasize flexibility in the administering of instruction, shop facilities for prevocational education of all varieties, physical education, general business fundamentals of both skill and information, concrete acquaintance with the world of fine and home arts, auditorium and directed study facilities, etc. The proportionate space given to shops, kitchens, cafeteria, printing equipments, laboratories, gymnasiums, swimming pools, assemble rooms, real junior high school libraries and museums is much greater than one finds in the ordinary school buildings. There will soon be a junior high school architecture. These buildings must be also community centre plants of a unique sort, not paralleling the senior high school functions in these respects. In addition to these features of the material plant we may expect to find increasingly art rooms and spacious grounds and other appointments in keeping with this critical three year unit in the reorganized public school system.

The *school atmosphere* will not be either elementary or secondary as we now know it. It will be a junior high school atmosphere or it will be a failure. It either has its unique character and tone or it is but a sham solution of a very vexed problem of public school reform.

We shall have *better teachers* and *better supervision* and more men teachers and a more pointed, focused curriculum. More men will become junior high school principals, and there will be a more nearly divided teaching staff on the lines of sex. Starting a junior high school creates a situation calling for a selection of high grade teachers to whom to entrust such an institutional experiment in a system of education. Better salaries will figure, broader training will be at a premium, years of experience will count and those with deepest understanding of youth will be selected. Comparative educational results and records of all sorts will result.

The six-grades elementary units in buildings to themselves will now be cleared of all but the young children, their single curriculum purpose will be clarified and their obstacles in the way of average pupils will be out of the way. This policy of "lifting" the overage from the six grade elementary school will have a wholesome effect upon all entrance requirements standards for admission to the next higher stage. Likewise those who have spent three years in the junior high school with its now increased exploration facilities and flexible curriculum offerings will and should naturally expect to be passed on to something in the senior high school department which is more specifically designed to fit them for some more definite sort of lifework. Then possibly even the colleges may get from all this a suggestion of an educational guiding principle for making their own admission requirements.

As to *subjects* and *single courses*, new and old, I have already referred and to progressive textbook makers who are even now on the job. Every single subject now found in the three grades concerned will undergo—indeed is already undergoing transformation. New principles of organizing so-called general courses in all the main lines of junior high school work, English, mathematics, general science, general social science, foreign languages, practical arts, commercial work,—all presage an educational era for the making of better pedagogically constructed "units of instruction," topical and problem goals of intermediate education which is going surely to point us to new meanings of educational method.

As to *curriculum organization* of our courses we are at least now to have design where there was none. Someone has said what he misses in 7th and 8th grade work is design. The junior high school organization creates a situation in which instruction without curriculum purpose will be painful when in evidence. In short we are forced to search for bases for our schemes of training. Here we may have curriculum differentiation or we may not. We may differentiate on vocational grounds, or on those purely of individual differences, or on none at all. The thing is that we have got to face the problem of whether we can point our instruction of these grades in any definable direction. Indeed curriculum differentiation is the crucial issue, whatever we do about it. We have already in our crudely conceived prevocational education begun to adjust your instruction in this prudent way to some sort of inevitable industrial test to come in the life of the junior high school pupil, saving him all the while from narrow specialization. Already also we have become increasingly convinced, from our crude scales and tests, of the consistent evidences of the inherent and universal natural differentiation among these children. No "Common Elements" can produce like effects. Here it takes *uncommon elements* to produce similar effects. Future probable careers suggest some flexibility in our courses; *this relatively constant proportion of poor, medium and superior students reinforces the suggestion.*

A mere tinkering with seventh and eighth grade subjects in the old environment and with an unchanged teaching staff and supervision cannot do what we already know must be done. These internal matters of educational reorganization offer opportunities which must not be squandered. The psychological value of this junior high school is that it provides just this favorable new situation for seriously conceived plans closely related to a clear educational philosophy of administration. If the junior school is anything it is the three-year section of our public school system, which, with its newly developed types of "generalized" subject matter, "project" and other like methods of teaching, democratic and free policy of school management, and intimate and intensive study of the individualities of pupils, seeks to direct pupils in finding themselves by exercising their various traits, exploiting their various aptitudes and making possible intelligent choice of any special sort of definite training which may be followed in the senior high school or in higher educational institutions. It is our clumsy, crude and still more or less vague but yet unmistakable attempt to shunt our educational machinery during this particular three-year period into the field of diagnosing and consciously exercising, by means of more various and more liberally conceived kinds of trainings, the individualities of pupils.

Into this picture of the modern junior high school, in addition to these larger features of the material plant, the principal and the special teacher, the new entrance requirements, the new and renovated old subjects, the curriculum differentiations, simplified organization, discipline adjusted to early adolescence, and equipment, must go such features as *directed school* and *home* *study*, *systems of organized educational* and *strictly vocational guidance*, *lengthened school day* and *school year*, *carefully supervised student activities*, and *card catalogues of individual differences recorded* in such a way as to affect the daily administration of the school. Ask ourselves how many of these features of a school are possible in European systems and we begin to appreciate the Americanism of the junior high school idea. We understand neither Americanism nor the junior high school thoroughly at present, yet we can believe in them. They are both struggling for expression.

What are the criticisms? It is urged that at the age of twelve there are no radical changes into adolescence as one notes at fourteen. But the very idea of a junior high school is to work gradually into secondary methods and subjects. It is urged that we are creating by this three curriculum unit arrangement three water tight compartments in our school system instead of two, and making it therefore possible to subdivide still further. This argument fails obviously as an argument. Opponents think the change necessarily means completely differentiated curriculums from the first junior high school year, failing entirely to distinguish different bases for flexibility in a course of training, and failing to recognize all degrees of partially and progressively differentiated lines of work. Again it is to be feared, we are told, that if we segregate the six year elementary school "elementary graduation" will mark the natural dropping of place for the majority—this in the face of many figures to the contrary from widely scattered junior high schools. Forgetting the fact that the new plan of entrance to some part of the junior high school will be in force the opponents argue too that the overage will, when they reach the compulsory age (in whatever low grade they are) tend to drop out. Instead they will be happy and adjusted in the junior high school itself before any such condition prevails. It is argued that general reorganization of our schools must follow any such step as starting a junior school. It will and this is the best argument for it. They are even speaking of cost—forgetting the striking feature it possesses of more fairly equalizing things by raising the per capita in the upper part of elementary organization. They claim that grammar school teachers are now better teachers than high school teachers and that grammar school conditions are better school conditions, and that all this is an argument against cutting the 7th and 8th grades away from the elementary school and engrafting them upon the high school—overlooking the fact that this is not what is proposed. Other arguments are that the plan is better fitted for the city schools than for the small schools and that therefore credentials admitting pupils from the smaller to the larger schools would be made more difficult; and that children driven from the common school earlier will be "sorted" into differentiated courses according to their probable future employment. Such arguments are doubtless offered by their authors merely because they must offer some sort and find these the only available ones. It is very clear that they do not touch vitally the chief educational problems genuinely constructive high school administrators are facing.

The Junior High School is more than anything else a term adopted to denote design in our educational organization and administration. It means that something other than tradition and accident has come to influence our development. It means some sort of uniqueness both in the pedagogy of school subjects new and old and in the spirit of our administration. It means the Americanization of a world tested principle of curriculum building. It means flexibility and therefore science in the manipulation of our total school plants. Meaning in a restricted sense reorganization of the three intermediate grades it in reality means reorganization of the entire public school system. It has as a term prevailed because of the spirited championship of its ideals by effective educational leaders in the face of as determined, even more violent opposition.

Why does it stand for us today as our chief educational problem? In the first place because it, like fire, though indispensable in the right place and in the right hands, is still dangerous; because it is misunderstood, because its proponents exaggerate its immediate values, because like all real reforms it really cannot be fully understood by any one at the present stage of its evolution;—it is our prime educational problem because of course the Junior High School is the adopted caption for an institution which, whatever we think of it, is spreading everywhere. The Junior High School in its name and independent physical existence and form of organization is but the outward manifestation of a sound new philosophy of education. It is the name we have come to associate with new ideas, promotion, new methods of preventing elimination, new devices for moving selected groups through subject matter at different rates, higher compulsory school age, new and thorough analyses (social, economic, psychological) of pupil populations, enriched courses, varied and partially differentiated curriculum offerings, scientifically directed study practice, new schemes for all sorts of educational guidance (educational in narrow sense, and also moral, temperamental, and vocational), new psychological characterizations of types in approaching the paramount school problem of individual differences, new school year, new school day, new kind of class exercise, new kinds of laboratory and library equipment and utilization, and new kinds of intimate community service. It has somehow fired our educational imagination.

It is a part of our educational philosophy already. Even its vigorous opponents have done the cause valuable service and made real though so far negative contributions. From now on however it would seem that all educators should pull with the current, and constructively help clarify the real "Junior High School Idea."

Reorganization of Education for Children from 12 to 14 Years of Age*

David Snedden

Commissioner of Education of Massachusetts

I. The topic assigned me on the program falls a bit short of the subject I shall treat, in two respects: (a) I shall deal with all children from 12 to 14 or 15 years of age, instead of the seventh and eighth grades only; and (b) I shall assume that there is no proposal to transfer pupils of these ages to the high school as we know it, but rather to organize for them a special type of school, at least in urban communities, to be known as the Intermediate School or Junior High School.

I shall, as my topic suggests, discuss the pros and cons of the proposed change, from the standpoint of the psychological conditions, and social needs, of the children involved.

II. But first, let us get our bearings. Proposals for the Junior High School type of school organization are chiefly, as yet, proposals for administrative readjustments. I hear very little regarding probable pedagogical changes—in courses of instruction and methods of teaching as now desired or expected in the upper grades, I mean. In large measure the new type of organization is sought simply as means—in the minds of many persons an indispensable means—of attaining the educational goals which, long ago, we set ourselves for children in upper grades, and in some cases for all children over twelve years of age.

1. The existing type of organization as found in almost any urban community in the United States is usually as follows:

(a) The elementary school consists of eight or nine grades, children in which, ranging from five to about fifteen years, are all housed in one school building;

(b) From one fifth to one third of the pupils twelve years of age and upward are found retarded, in grades below the seventh, competing with younger and, as a rule, brighter children;

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*Paper prepared for the Department of Elementary Education of the National Education Association, July 4, 1916, by Commissioner David Snedden of Massachusetts.

(c) The grade teachers teach all subjects in grades below the seventh; and in the seventh and eighth, all but manual training for boys and household arts for girls 'at times music and drawing are taught departmentally, and in perhaps three to five per cent. only of all schools fairly comprehensive systems of departmental teaching in general are found';

(d) The upper grade teachers are women, with increasingly rare exceptions; these women have not had special training for upper grade work but are, as a rule, the abler of the teachers who obtained their first experience in country schools or lower grades (upper grade positions frequently carry better salaries, and are therefore sought by women who expect to remain permanently at teaching);

(e) The course of study is uniform for all pupils alike, except for the differentiation of manual training for boys and household arts for girls; its primary elements are: English language, English literature, geography, American history, and arithmetic; while hygiene, science, drawing, music, manual arts, civics, etc., are secondary or incidental elements, foreign language and vocational guidance being rare elements;

(f) Standards of graduation are determined almost wholly by the prevailing standards of admission to high school; hence, as a rule, less than fifty per cent. of all pupils required to attend school obtain the elementary diploma.

2. The school organization which I have in mind as being more effective—namely, the Junior High School—should have the following features:

(a) All children from five to twelve (except children under twelve who have finished the sixth grade) should be taught in schools located near their homes (schools which need not exceed four or five rooms in size), staffed by women teachers only;

(b) These lower elementary schools should never be very large—ten or twelve rooms would be a desirable maximum—and the principal should be simply a head teacher; but for each fifty to seventy teachers in these schools in any community there should be a woman supervisor of instruction;

(c) All children between twelve and fifteen years of age (including children under twelve ready for the seventh grade, and excluding children under fifteen ready for the regular or senior high school) should be sent to the central Junior High School or

Intermediate School (it should be assumed that a walk of one and one half, or even two miles is not excessive for this purpose);

(d) The course of study in the central school should offer the pupils a large range of elective or optional studies in addition to certain essentials in English language, English literature, American history, community civics, and geography, which latter should be prescribed for all (for retarded pupils special classes in these subjects to be formed);

(e) Promotion should as far as practicable be by subject, so that a retarded pupil, for example, in the fourth grade in arithmetic may, if qualified, enter seventh grade geography; and a boy backward in history may nevertheless take eighth grade industrial arts (manual training) if qualified;

(f) Teaching in the Junior High School is expected to be departmentally organized by subjects, or, preferably, along lines of the Gary plan, by groups of related subjects; and it is expected that this organization will produce a demand for specially qualified teachers;

(g) If the State is willing to pay the price, a certain proportion of men teachers should be assigned to departmental positions, not primarily because they are necessarily better teachers than women, but because it is desirable to introduce, in boys' classes, at any rate, the influence of masculine personality.

III. Those of us who favor such reorganization of education as will give us the six-three-three plan or the six-two-four plan —with the Junior and Senior High Schools either as two and four year or three and three year schools respectively, and in any event as large central schools—do so because we believe that, on the whole, the psychological conditions of children as well as their social needs justify such reorganization, even if it cost the community slightly more financially. What are those conditions, and what are those needs?

1. The conditions are summed up in the two words "increasing variability." Uniform programs of education, uniform teaching methods, and non-specialized teachers presuppose groups of people of substantially uniform characteristics. But all recent inquiries tend to bring into relief facts as to the increasing unlikeness of children beyond twelve years of age. We recognize them as differing moderately as regards height, weight, and bodily strength; materially as regards abilities in such

studies as literature, vernacular language, and history; and very greatly indeed as regards abilities and interests in music, plastic and graphic art, abstract mathematics, alien language, and manual constructive work.

We should not, of course, fall into the foolish error sometimes made in educational writings, of supposing that these differences are greater (whatever that may mean) than are the resemblances or likenesses in the case of any two children. Two children of twelve may differ in height by as much as fifteen inches, but almost never do they differ by twenty-five per cent. of the height of the shorter. No two children differ as much in respect to ability to learn a foreign language as either one does from a horse or other animal as respects such learning. In the absolute sense, therefore, it may be repeated, the facts of resemblance among young human beings (as regards the elements that make groups of them relatively homogeneous) are vastly more nunerous and significant than are the facts of unlikeness. But as regards the facts of likeness and unlikeness that are important to education, to the ends and purposes for which schools exist, all evidence points to the desirability and essential humaneness of all arrangements which permit, in processes of instruction and training, recognition of deepseated differences of ability, taste, and general educability.

Let us now make two general propositions as to which there will be no serious debate.

(a) If, possessed of endless resources and hampered by no restrictions of any kind, we were making educational programs for our children, we would doubtless, in light of what we now know regarding the unlikeness of individuals among them, make the programs for no two of them exactly alike in all respects. We would pay tribute to obvious differences as regards the gifts bestowed by the gods of heredity and early environment; and we would not ignore the probable opportunities and limitations decreed by fortune in the child's future life. We would strengthen some of his already strong powers; and where he was weak we might justly forego to strive for the powers for the foundation of which nature did so little.

(b) On the other hand, except in rare cases of genius or defect, it is not practicable to educate children on the basis of strictly individual qualifications. In education, as in war, industry, transportation, worship, housing, and entertainment, economy and general efficiency require that we deal with people in squads, platoons and divisions. We must have companies and regiments for fighting; congregations for worship; gangs, crews, and departments in industry; audiences and parties for entertainment; passenger groups and classes for transportation; and grades and classes in schools. To talk of individual instruction, except as that is practicable within group organization, is to talk nonsense, except where the few children of wealth and rank are concerned. We can, of course, strive to produce the maximum of individual thought, initiative and action on the part of the learner in the class, just as we can on the part of the unit in the squad, crew, congregation, audience, or passenger group. But it is clear that individuality of action in these groups must, while the ends of group action or reception are to be met, be greatly subordinated to the requirements of subjection to orders and enforced limitations, uniformity of stimuli, and conformity in behavior.

In the organization of groups for school education, therefore, we cannot, though we would, provide special programs for each individual (as men and women did for Helen Keller). We must provide for a certain amount of regimentation, classification, grouping. But these groupings must not be fixed in rigid groups. We must not allow the school to become a Procrustean bedstead to an extent greater than is absolutely necessary and inevitable. We have had the school compared to a saw mill, cutting its "stock" into standardized lengths. Schools have done this in the past. Like armies, churches and transportation, schools have at times made the organization of groups an end rather than a means, forgetting that the units with which they deal are in considerable measure unlike.

2. Besides the psychological "conditions" of the individuals composing our school classes, what are their social "needs" that justify the proposed reorganizations of upper grade work? The keynote to these needs will be found in the words "progressively increasing differentiation." Modern civilized life is like modern industry or modern army organization. Functions are being increasingly differentiated, and activities and interests specialized according to all kinds of capacities and opportunities.

But it should be clear at the outset that as regards fitting individuals for group life the school has two different functions, that are at times in conflict. The groups into which children must fit are of various kinds. There are large groups and small groups—as (a) the nation, the religious denomination, the political party, the potential army of defence, the readers of good books, the economic organization; and, opposed to these, (b) the local community, the particular church or sect, the political gang, the squad or mess, the partisans of a particular book or writer, the embattled employees of a particular industrial establishment. There are vocational, as against cultural, groups—farmers, machinists, bankers, teachers, waitresses, homemakers, and defenders, as against patrons of art, readers of classic literature, subscribers to specified magazines, visitors to the "movies," illiterates, etc. Various other groupings may be distinguished —such as family group, racial groups, sociability groups, economic co-operative groups, worshiping groups, etc.

Now it is one of the functions of education to predispose and fit its pupils for assimilation with the larger, as against the smaller, groups, in the interests of a wholesome social order, harmony, and economy of effort. We, therefore, seek that all American children shall speak a common tongue, write a mutually understandable prose, have a common knowledge of certain standard literature, comprehend and appreciate alike the important facts of our geography, history, and civic life.

But it is another function of education to see that our young people are fitted efficiently to discharge their responsibilities in the small groups of which they will inevitably be a part. Membership in, and sympathy with, the large groups of civilized society are essential to the harmony of the social order; but active and properly co-ordinated participation in the activities of smaller groups is essential to efficient personal growth, individual efficiency, and ultimate social usefulness.

Hence the desirability of partial group differentiation of pupils even as early as twelve years of age. Their needs include fitting for those special group activities in which they can most profitably serve themselves and society. As to some of these children it is certain that their opportunities for school education will close forever at or near fourteen years of age. We may not always know the particular individuals of whom this is true—although a shrewd social diagnostician, knowing the facts as to the home conditions, school standing in studies, intellectual interests, general moral behavior, and physical conditions of one hundred children at twelve years of age, could, I think, guess right as to ninety per cent. of them. But even if we do not know the future as regards particular individuals, we do know it in large measure of collected groups, in the statistical sense —we know of probable numerical ratios and percentages; hence any refusal on our part to provide opportunities into which individuals will fit as well as may be on the initiative of themselves or their parents, with perhaps our advice, is wasteful, inefficient, and essentially undemocratic.

There is a certain small percentage of our pupils who, by virtue of their probable future opportunities for usefulness and self-gratification, ought to have early opportunity to study a foreign language—German, French, Portuguese, Russian or Japanese. Here again, at the age of twelve we may not be able to select just the persons who should be advised to do this; but if the opportunities are provided, and if parents are fully advised as to the conditions, requirements, and probable fruits of this work, and if admission to it is restricted to those who have shown superior ability in the vernacular, choices will be right perhaps fifty or seventy per cent. of the time.

It is assumed here, of course, that no vocational training as such will be given in the Junior High School. That will come later and will naturally require a large degree of specialization —in a city the establishment of even hundreds of different and unlike specific vocational schools to prepare for the hundreds of separate commercial, industrial and domestic occupations into which modern life is divided.

But in the Junior High School large opportunities should be given for practical arts training, which, while not vocational in its outcome, may help towards vocation-finding, and will certainly give insight into the ideals and social significance of occupational life, if properly directed.

To be of real service, however, practical arts education (industrial arts, agricultural arts, household arts, nautical arts, and commercial arts are all included under this head) must be diversified according to the fundamental interests of children; and the spirit in which each type of work is to be approached should be that of the amateur. Courses should be very flexible. A pupil entering printing for the first time, for example, should have the option of several simple introductory projects; after he has given reasonable attention to any one he should, if he wishes, be permitted to take up projects in a totally unrelated field—e. g., gardening.

Hence the need of the flexible course of study which only the Junior High School type of organization can provide.

Let us repeat: The proposed Junior High School type of school organization is an administrative means—a necessary means—to certain essential forms of improvement of the education of young people from twelve to fifteen years of age.

Rochester's Junior High Schools: A First Step in Establishing the Six-Three-Three Organization

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LAST September the city of Rochester opened its first school under the Six-Three-Three plan. A step of this kind is so important to any community that it should be made with deliberation. It furthermore involves such a pronounced departure from the school organization commonly found as to challenge a most careful consideration of the educational principles concerned. In view of the fact that these principles are more than local it is hoped that this brief discussion of some of them may contribute somewhat to other communities which are contemplating this form of organization.

A building problem in one section of the city presented two solutions. One was the building of additions to some half dozen elementary schools, thereby continuing the custom of eight years of general elementary school training. The other was the erection of a central building in which might be gathered the pupils of the seventh and eighth grades from the surrounding schools. The building expense involved was practically the same in either case. The latter plan was chosen.

This plan was chosen primarily because school authorities believed that it presented possibilities of meeting the needs of the seventh and eighth grade boys and girls to a far greater extent than we have been able to meet them heretofore. One of the criticisms urged against the Junior High or Intermediate School plan is that it has come into existence chiefly because of the demands of the high schools and colleges. Nothing could be farther from the truth so far as Rochester is concerned. School authorities here believed that we were not adequately meeting the needs of our seventh and eighth grade boys and girls and furthermore that we could not adequately meet them under the usual organization in any way consistent with economy. No one today denies the value of manual training for boys and household arts work for girls, at least in the seventh and eighth grades. There are many, however, who argue, and we believe argue soundly, that there is doubtful value in much of this work as it is usually given in the regular grammar school. In the first place the time is insufficient. This objection is raised even more by parents than by school men. But by far the more serious objection is to the nature of the work itself. For boys it is usually general and disciplinary; is limited to simple forms of wood work only and lacks the purpose and motivation necessary to awaken either cultural or vocational interest. If the time element were the only one involved it would be possible to lengthen the grammar school day; but the expense incurred in any attempt to offer, in connection with each grammar school, the range and kind of manual training facilities needed for these boys is absolutely prohibitive. This expense is not only for original equipment but it is for the necessarily high per capita cost of instruction considering the comparatively small number of boys found in even our largest grammar schools.

Furthermore few people doubt today that the boys and girls who are to study a foreign language ought to begin this study before the usual high school period. Is it a fair proposition to say that at the eighth year the boy who has an interest in and an ability for language should have the opportunity of spending more of his time on this subject, while the boy who has an interest in and an ability for the industrial arts should likewise have the opportunity of spending the additional time in this department that the former pupil spends on a foreign language? We believed that such an arrangement should be possible. But the limited numbers involved in even the largest grammar school in Rochester made this limited difference impracticable. Any attempt at it would at the best be but a makeshift. The fact is that in the last analysis the Junior High School problem is essentially one of numbers.

Of course the value of what has been said thus far rests upon the assumption that there are needs among these seventh and eighth grade boys and girls that we have not been meeting under the usual grammar grade organization. To deny this it is necessary to show that those pupils who withdraw from school, at least upon the completion of the eighth grade work, withdraw largely because of economic pressure in the home. Our evidence is quite to the contrary. Of those who completed the eighth year work last January under the Junior High School organization 94½% have remained for the ninth year work. A year ago in exactly the same community but under the grammar school organization only 51% remained for ninth year work. This highly suggests that there were needs among these upper grade pupils that were not being met and that the present Junior High School type of work is meeting these needs.

In this attempt, however, to meet more adequately the needs of these upper grade pupils, there is danger of forcing or encouraging vocational selection at such an early age that it may result in the lifelong injury of the pupil. The average age of the eighth grade graduates in the City of Rochester is 14½ years. Certainly any influence that encourages a specific vocation earlier than this can not be defended by the public school. This is an eductional principle upon which there has been much discussion from time to time. This objection to what was regarded as early specialization was the one most urgently used against the extension of regular high school courses beyond the literary, pure science and mathematics lines of work.

On the other hand, any form of school organization that affords no opportunity for awakening vocational interests and encouraging vocational abilities before the time when vocational selection actually is made would seem to err in the other direction. We believed this to be a pronounced weakness in our former organization. Both parent and pupil were forced to make some sort of selection of decided vocational importance to the pupil at the completion of this eighth grade work. In this particular community nearly half of the pupils who remained for the completion of these eight years of work were withdrawing from school. With these the selection was of vital vocational importance, and yet chance rather than intelligence was to determine the outcome. The major part of these eighth grade graduates who did continue in school, furthermore, were selecting the general or college preparatory courses of the upper high school; a smaller percentage were selecting the commercial courses and a still smaller percentage the trade courses for boys and girls of secondary grade. The distribution of our high school pupils is suggestive on this point. Of the total number 66% are in the general or college preparatory courses, 27% in the commercial courses and 7% in the trade courses. To the extent that the distribution of high school pupils might be expected to reflect the vocational activities of the community one would infer that two-thirds of all the working people of Rochester are engaged in professional vocations while only one-third are carrying the business and industrial enterprises of the city. Of course no one would expect nor desire to find only those taking college preparatory courses of the upper high school who anticipate going to college and later entering upon professional careers. There are many in this course who are there for purposes of general education, and no one will deny that this is a highly defensible purpose for every pupil who has an interest in and the ability to profit by these literary, pure science and mathematics courses. But how many of those who are actually familiar with our upper high schools would care to defend the proposition that for two-thirds of all our grammar school graduates the general or college preparatory courses are the most helpful courses which they could possibly take during these four years of the high school period? On more than one occasion in my own experience as a high school principal I have added to the number of those who had so signally failed in the first year of a foreign language as to require repeating the subject, the number of those who had barely passed with a rating that forced a grave question as to whether the results received had been commensurate with the time and energy spent, only to find that the combined results included a majority of the pupils in the subject. There is ample evidence to any person familiar with the facts that this general education only too often means aimless and ineffective education. And yet this is the traditional high school course and consequently quite the course to take in the judgment of so many parents. By no means infrequently does the parent of a boy who is making a signal failure of his work in high school in this course plead that the boy be allowed to go on because the general cultural benefits of the high school atmosphere will be of so much help to him in later life. And this at the time in a boy's life when neither true culture nor real training can come through any medium that does not bring forth sustained effort on the part of the individual. To the extent then that these two-thirds who are taking general or college preparatory courses represent those who will not gain results commensurate with the time and energy spent, a continuance of the system is resulting in life long injury to pupils quite as effectively as is the learning of any particular trade at too early an age provided the learning of such a trade has been accomplished by hard and conscientious application.

But how are these interests and abilities to be determined? It is true that every eighth grade teacher has watched certain of her graduates go on into the literary, pure science and mathematics courses of the high school knowing that they were doomed to failure in these lines. Her counsels availed little, however, when opposed by the traditional emphasis upon those high school courses which may lead ultimately into professional life. But even in these cases the teacher has based her judgment more upon what the pupil has failed to do in courses given than upon what he had accomplished in other directions. This is obviously true because the grammar school has no facilities with which to make any adequate test along lines other than those which do lead to the general courses of the upper high school.

School authorities in Rochester believed that so long as these broader facilities for evoking the pupils' interests and abilities in the great field of manual arts were not made a reasonably adequate part of their lives before the compulsory education law had been satisfied, the steady withdrawal of such a large percentage of the eighth grade graduates from this community and the traditional selection of the literary high school courses on the part of so many others who would gain but meager profit from such courses would inevitably continue. The only way to guarantee these facilities was to make them a part of the pupils' school work before compulsory attendance had released its hold upon the child. The problem then lay in preserving a sensible balance between the one extreme represented by the single-teacher plan of grammar school organization and the other extreme of premature specialization. This could be done only by insistence that these courses for seventh and eighth grade pupils under the Junior High School organization should provide so far as possible a range of activities sufficiently broad to bring out individual interests and capacities and that they should be emphatically preparatory and prevocational. The following statement of the work given to these seventh and eighth grade pupils under this organization will best show how this attempt has been made.

Manual Training and Household Arts. A minimum of three hours per week is required of every pupil during the first two years. A maximum of twelve hours per week is allowed during the latter half of the first year and during the second year. For the boys there are the following shops each in charge of a master mechanic—printing, sheet metal, plumbing, gas engine, joinery, cabinet assembly, pattern making, mill work, painting and decorating. For the girls the work includes plain sewing, millinery, dress making, laundry work and cookery. Those boys who take the minimum time for this work during these two years are given the choice of shops, so far as conditions will permit. The same principle holds with those who take the maximum amount, except that no pupil is allowed to spend more than ten weeks in any one of these shops during this period. The aim here is to test special interest and ability, to give some insight into the trade field, and to give such hand training as is consistent with the maturity of the pupil. In so far as this aim is realized, such a pupil if obliged to leave school at the end of his eighth year will have received some training for his work that will be comparable in value to the preparation given the boy who is to have the advantages of a full high-school course. If on the other hand he is to continue in school along trade lines he will be much more able to select intelligently his special trade.

English including *Spelling*, *Writing*, *Grammar*, *Composition* and *Literature*. This work is required of all pupils during the first two years. Those pupils, however, who give the maximum time to the manual training and the household arts after the first half year, spend less school time on technical grammar and literature than do the other pupils. Such pupils are required, however, to read outside of school hours a certain amount of good literature. The texts for this are assigned by the teacher who guides and directs the reading and who at certain intervals discusses with these pupils the significant points in the literature read. It is interesting to note how already these pupils are associating the reading of a good book with the leisure time in the home.

Arithmetic. This subject is required of all pupils during the first two years. After the first half year those who are taking the maximum time in the manual training and household arts find their application of the principles in connection with this manual work. In like manner those who are interested rather in business or commercial lines find their special application in the different phases of business arithmetic.

Drawing. This is required of all pupils during the first two years. The emphasis is put upon the mechanical or free hand according to the nature of the other work of the pupil.

Geography. This is required of all pupils during the first year. Commercial geography is also taken during the entire second year by those who are putting special emphasis upon the business or commercial work.

United States History, Civics, and *Current Topics.* These are required of all pupils during the first two years.

Elementary Science and *Physical Education.* These are required of all pupils during the first two years.

Music. This is required of all pupils during the first half year; of all except those who are taking the maximum time in the manual training and household arts during the second half year and of those pupils only who plan to go on to the upper high school, during the second year.

Foreign Language, Latin or *German.* This is allowed at the beginning of the second year for those pupils who plan to enter the language courses of the upper high school.

General Mathematics. This course includes arithmetic, concrete geometry and elementary principles in algebra. It is taken during the second year and is designed to prepare more helpfully for the specialized courses of mathematics of the upper high school.

The school day begins at 8:30 and closes at 4:15 with one and one-quarter hours for noon intermission. This gives a school day of six and one-half hours which is an increase of more than 20%, over the usual length of the school day in the elementary school. This day is divided into four periods of one hour and thirty minutes each. This length of period has two advantages. In the first place it allows time for definite training in the preparation of lessons. In the second place it makes possible a less abrupt transition from the single teacher plan of the elementary grades to the fully departmentalized work of the upper high school by having subject groups rather than single subjects taught by certain teachers. For example, Latin, English grammar and composition are taught by the same teacher while English literature, United States history, civics and current topics are taught by another teacher.

A review of the above requirements for the first two years of this Junior High School, corresponding to the seventh and eighth grades of the regular grammar school, makes clear the following—

1. That during the first half year all pupils are required to take the same course. This gives a half year in which to consult the home and study the entire elementary school record of each pupil before making any attempt to meet individual needs through differentiated courses.

2. That during the remainder of the first year a very conservative differentiation is made. This affords a half year in which to verify the assignment before the sharper differentiation of the second year takes place.

3. That the final choice as to course does not come until the completion of the second year. This is the time when precisely this kind of a choice must be made by the pupil who completes the grammar grade work. At this time the pupils who have emphasized the manual training or the household arts work under the differentiations previously allowed are free to enter the college preparatory courses of the upper high school if they so desire. They will not have had the foreign language nor the general mathematics courses of the eighth year but even so they will be quite as well prepared for this work as are the graduates of the regular grammar schools. This is not an opinion but a statement of fact based upon five years of experience in the Rochester Shop School for Boys.

4. That aside from the foreign language of the second year all subjects are substantially those now commonly offered to seventh and eighth grade pupils.

5. That no specialized commercial subjects, such as shorthand and bookkeeping, are offered during the first two years. Those pupils who show special interest in the commercial work offered are simply given a preparation for later specialized commercial subjects through a partial application of arithmetic and English, for example, to business practice. This is regarded as most helpful for the pupil whether he goes into the commercial courses

of the upper high school or into the business office upon the completion of the Junior High School work.

6. That no pupil is allowed to center his interest upon any specialized trade during the first two years. The maximum time spent in this line necessitates work in at least six different shops. Such a provision is designed to bring out vocational interests, to give some insight into the trade field and to give such elementary hand training as is consistent with the maturity of the pupil.

7. That all boys during the first two years are receiving their manual training through the working out of practical problems in various shops which deal not only with wood but with metals and forces. This gives a purpose, a motive to the work which is of value in awakening both vocational and cultural interests. The boys who later are to go on to the language courses of the upper high school are also working in the same shops as are the boys who are to go later into the trades. They are simply spending less time in these shops because they have less need for this work. The same principle holds with the girls in the household arts work.

8. That in short the whole work of these two years is preparatory and prevocational. The simple attempt is made to provide a range of facilities and a sufficient amount of time to bring out special aptitudes and then to give such development of these aptitudes as is consistent. Thus when the time comes for the pupil to decide upon his high school course or upon his course in the world he will have received some insight into the vocational sphere, whether professional, business or industrial, in which he will later find himself.

There are those, however, who will object to even the conservative differentiation made on the ground, first, that those who major in the industrial arts, for example, must sacrifice music and some of the more cultural phases of the other common school subjects; and secondly on the ground that such differentiation necessitates segregation. (We definitely group pupils once the differentiations begin into *academic*, *commercial*, *household arts* and *industrial arts* courses). The first objection is based on the belief that these cultural elements should be common in nature and amount to all pupils in the seventh and eighth years in order to promote common interests or collective welfare. Akin to this is the basis of the second objection, that segregation at this period promotes class distinction and is consequently undemocratic.

These objections appeal to us as being more apparent than real. The first objection presents primarily the problem of essentials. No one would deny the value of these cultural elements. But given a boy who must leave school at the end of the eighth or ninth year but who may leave before and who has an interest in and an ability for the vocational sphere of the industrial arts, two intensely practical choices must be made by the school. The one is the choice between giving him some insight into the field of trades and some opportunity for training in this field or losing him from school entirely. This statement is not theory but stern fact. It is based upon five years of actual experience with these industrial and household arts courses. in the Rochester Shop School for Boys and the Madison Park Vocational School for Girls. This experience has shown that pupils who have withdrawn from the upper grades and secured their work permits have returned to school when they have found an opportunity for this kind of training open to them. It has shown further that parents who had intended to withdraw their children from school have repeatedly stated that they would by all means continue them in school if this training in the industrial and household arts could be given. But assuming that such a boy remains in school, there is still the choice between giving him this industrial arts work in the field of his interest that will guarantee to him a preparation for his life comparable in value to that given the boy who will have the advantages of the upper high school; or insisting upon the general cultural courses and turning him out to flounder among the unskilled workers. These are not hypothetical cases. They are only too real, as every community can testify.

The second objection is even less valid. The greatest single factor in promoting the common interest is the ability to read, write and speak the English language. This ability is given during the first six years of the elementary school. During this period also the child is given control of the basic tools of education. Beyond this six year period it is largely a matter, so far as these common school subjects are concerned, of repeated and extended application to guarantee skill or automatic mastery on the one hand and broader interest on the other. Both of these conditions are met in the differentiations allowed during the first two years in this school. The boy who has a special interest in and ability for the industrial arts will find in this field the repeated applications that will give him the skill or automatic mastery. In fact the probabilities are that he will find it to far greater advantage than in any other direction. His application will come in the problems of the shop in which he is interested, rather than in the problems of the text book in which he may not be interested. They will furthermore be real problems rather than the artificial ones so frequently found. There will also come here the opportunity for extended application for a broadened interest. He is pushing back the curtain on the stage of his interest. Is it important that this stage should be the same for all pupils of these years to promote common interests? Does the study of Latin by two pupils, one of whom has a natural aptitude for the subject, and the other of whom has no special aptitude, promote common interest either in the subject or in anything else? Have our high schools become less democratic because commercial and manual arts courses have been placed in them along side the literary courses? The pupil in the literary course sees the pupil in the manual arts course getting precisely the same credit for the same unit of work regardless of the course in which that work is taken. The pupil in the literary course furthermore sees the pupil in the manual arts course win the approval and respect of the teacher through honest and intelligent work, sees him holding the respect of his fellow pupils because of his character and sees him graduate with a diploma that merits and receives quite as much recognition from the school as does the diploma of the student in the college preparatory course. Does this make for class distinctions and for misunderstanding or is it rather the traditional retention of the literary courses in our high schools, as if professional lines of activity were the only ones worthy of the support of a community, that has led to class distinctions? Is it the matter by which the individual acquires the working power or is it the use to which this power is put that is of vital consequence to the public welfare? After the basic tools of education have been taught, any attempt to insist that all must make the same kind and amount of application is not the course best designed to secure either individual power or common interests. The individual will gain his power by application to the activity upon which he works hardest and most intelligently. This will inevitably be in the field of his interest. The common sympathies and understandings will come in larger proportion as the kind of service which each is best able to give gains its recognition not only from the school but from the community at large.

But this attempt to avoid premature specialization and yet bring out and develop individual aptitudes has not been confined to courses of study. It has also been applied to the task of selecting and training teachers as well as to the methods of organizing the school.

The selection of teachers for such a school is at the same time the most important and the most difficult problem presented. Assuming that teaching experience is indispensable, the choice lies between the experienced high school teachers with college training and the experienced grade teachers, usually without such training. The former will be strong in subject knowledge but not so strong in their knowledge of seventh and eighth grade boys and girls. They will furthermore be inclined to regard work in the Junior High School as in a less advanced position, even though salary conditions are the same. The latter will be less strong in subject knowledge but stronger in their experienced knowledge of upper grade children. They will furthermore regard work in the Junior High School as an advancement and will be conscious of the need of supplementary training. This attitude of mind speaks volumes in favor of the experienced grade teachers.

Once it was decided to select experienced grade teachers, the problem of intelligent selection presented itself. Accordingly one year before the Junior High School was to open, a series of Saturday Morning Institutes was begun. Classes were organized in Latin, German, English, Elementary Science and Mathematics. These had to do with applicants for teaching positions in the Academic Course. Specially trained teachers were available for the Commercial, Household and Industrial Arts courses, though Saturday Morning Institutes were organized and carried on through the year in these courses also. The major emphasis in these latter had to do with courses of study.

To these courses were admitted every experienced grade teacher in the system who met the minimum requirements and who cared to apply. Every applicant for a position as teacher of mathematics in the Junior High School must have had, for example, the full mathematics courses of the upper high school. To continue with this subject of mathematics as illustrative of the principle which prevailed in these Institutes, three definite things were accomplished. In the first place, an opportunity was given for making in outline a course of study in general mathematics for the eighth grade or second year Junior High School pupils of the Academic Course. It was exceedingly important that this should be done and that it should be done with great care, since this course was to prepare the pupil for the specialized mathematics courses of the upper high school. Furthermore, no text book had been written to meet this particular condition. Had we confined ourselves to the arithmetic or taken the straight high school course in algebra the task would have been simple. The Institute was in charge of the head of mathematics in the high school to which the pupils of this particular Junior High School would later go. He knew the high school needs and was naturally in a position to indicate the best line of preparation. In the Institute class, on the other hand, were the experienced grade teachers with their knowledge of the capacity and limitations of upper grade pupils. These seemed to be favorable conditions for working out courses of study. The working out of such courses, therefore, was one important thing to be done in these Institutes. In the second place, these Institutes gave to the grade teachers an opportunity for subject matter review in algebra and geometry. And lastly the work of the teachers in these Institutes constituted one important factor in the ultimate selection of teachers. What has been said of this course in general mathematics was equally true in principle of each of the other courses.

The general organization of the school can be presented with comparative brevity. There are no departmental heads as we know them in the usual high school organization. At the head of the school stands the principal, a strong, experienced grammar school man. Associated with him and giving his whole time to the instructional side is a Director of Junior High School Academic Work. He also is an experienced grammar school principal of exceptional ability in this particular field. His task is to relate and co-ordinate the academic work of the entire school, regardless of the department in which it is given. This makes for unity and it greatly facilitates the transfer of pupils from one course to another when there is a demonstrated need. One man is in general charge of the shops, one woman has the corresponding place in the Household Arts work, and the Director of Commercial Education for the entire system is taking immediate charge of the commercial department. The high school departmental heads who carried through the Institute work of last year are consulting engineers. Their interest has been pronounced and their contributions important. In fact in the main they are coming to the school for a regular period each day, there to teach a class of eighth grade pupils, while the regular teacher and often the Director of Academic Work are present also to offer their contributions and assistance. Such is the desire of these high school men to know at first hand the powers and limitations of the grade pupil. This ought to contribute much to the solution of another commonly recognized problem, that of securing a closer working relation between the upper grades and the high schools.

This is an exceedingly simple type of organization and it will doubtless impress some as being too simple. On the other hand, those who are familiar with the usual departmental work of the upper high school, which only too often becomes compartmental, will find at least a partial defense for the plan outlined above. As later Junior High Schools are organized in Rochester, this Director of Academic Work will extend his field as the unifying force over all, and such additional sub-directors will be assigned as experience proves desirable.

In conclusion Rochester submits the following defense for this Junior High School—

1. It has thus far increased by 15% the number of pupils who have remained for eight years of work. This argues well for the reduction of eliminations from the seventh and eighth grades.

2. It has increased from 51% to 94½% the number of pupils who have completed the eight years of work and who are still remaining in school.

3. It has, thus far, produced a much saner distribution of high school pupils. Whereas the distribution of all our high school pupils shows 66% in the general or college preparatory courses, 27% in commercial courses and only 7% in the industrial and

household arts courses, the distribution of ninth year pupils in the Junior High School shows 33% in the general or college preparatory courses, 33% in the commercial courses and 34% in the industrial and household arts courses. We believe this to be a significant change, whether viewed from the standpoint of the distribution of vocational activities in the community or from the standpoint of a distribution that will give maximum training benefits to the pupils themselves. No one can say that this one-third in the general or college preparatory course includes all pupils who might gain the maximum benefit from this course. On the other hand, no one familiar with the great mortality among first year pupils in this course under the traditional distribution, and also familiar with the number of those who do remain and who seemingly fail to derive benefits commensurate with the time and energy spent in these courses, can be very apprehensive lest general culture will suffer under this changed distribution.

It would obviously be unreasonable to derive any conclusions concerning the merits of this school with less than a year of actual experience upon which to base such conclusions. Furthermore, one could not defend tracing the greatly increased number of pupils who are remaining for ninth year work to any single cause, such, for example, as the differentiated courses. Changed economic conditions in the community may be an important factor here. The least that can be said, however, is that the experience thus far indicates that this Junior High School will prove to be an educational investment that will pay abundant returns.

The Training of Teachers for Intermediate Schools

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THE reorganization of the upper grammar grades is proceeding apace throughout the country. In 1909 the N. E. A. Committee on a Six-Year Course of Study found that twenty-two cities, distributed over twelve states, professed to have their schools operating on the six-and-six plan. In the Report of the Survey of the Public School System of Salt Lake City, submitted in June, 1915, the statement is made that sixty-eight cities have organized intermediate or junior high schools and that "many more are contemplating this feature." An investigation now being conducted by the Massachusetts High School Masters' Club reveals the fact that the number of places that either have actually adopted the new plan or are expecting to put it into operation in the near future is so rapidly increasing that figures published today are out of date tomorrow. The widespread acceptance of this reform seems inevitable, not as an educational fad or fashion, but because it offers a better opportunity than does the conventional arrangement of eight years of elementary school to make certain administrative and pedagogical readjustments.

The end of these readjustments is that the individual pupil may be taught more nearly in accord with his capacities, interests, and life needs, and that differentiation in subjects of study and in methods of instruction may come earlier in his school career. The serious mortality in the seventh and eighth grades and in freshman classes in ordinary high schools proves the lack of good articulation between the last grade of the elementary school and the first grade of the high school. While this serious dropping-out may be due in part to poverty in the home, which forces the child into wage earning at the earliest possible moment, investigations have shown that a greater factor in elimination has been lack of interest in what the school had to offer. Hence the intermediate school promises relief at this stage. This it will give by standing between the new elementary school on the one hand and the high school on the other, in sympathetic touch with both, by offering a wide choice of activities, and by making gradually and naturally the change from instruction in nearly all subjects by one teacher to instruction in different subjects by different teachers.

In the face of these conditions it may well be asked what is to be the relation of the normal schools to this evidently sound and growing movement and what are the opportunities and responsibilities of these schools in the development and extension of the intermediate or junior high schools. If the normal schools are to bear a part, it is clear that their activities must lie in these directions: first, the training of teachers for the intermediate schools according to our present lights; second, the origination and adaptation of whatever methods will be necessary in order to adjust most suitably the ways and means of instruction to this reorganized field of education.

With regard to the present training of intermediate school teachers, we must first note a redivision of classes from two main groups, elementary and secondary, to three groups, elementary, intermediate, and high. In Massachusetts it has been the accepted function of the state normal schools to train teachers for the eight or nine grades of the elementary school leaving it to the colleges to supply teachers for the high schools. It may safely be assumed that the normal schools will continue to train those who are to teach in the first six grades and the college those who are to be high school instructors; but the question now arises, what institution shall train intermediate school teachers and what should be the main characteristics of that training.

While some superintendents of schools who wish to emphasize the secondary school spirit in grades seven and eight insist upon a full college training as a prerequisite for teaching in the intermediate schools, the great majority are likely to demand that the college graduate take in addition definite professional work at a normal school or include in his college course both substantial work in professional studies, and, particularly, practice-teaching under supervision in public schools. The common complaint of supervising officers is that average college men and women teaching in high schools may have good command of their subjects but know little of the science and art of teaching. It is felt that to have the poor work often done by these unskilled instructors in the freshman classes of the high school extended down into grades seven and eight would be even more unfortunate.

While some colleges and universities are developing divisions, or schools, of education with adequate practice facilities, they are yet so few in comparison with the great number of intermediate school teachers likely to be needed within the next few years that their product is likely to be inappreciable for a long time to come. Then, too, the question of salary has a bearing upon the situation. For a decade or more, outside a few unusually progressive and well-to-do cities, wages of intermediate school teachers are likely to range midway between the elementary school and high school scales. Professional considerations will urge as thorough a preparation and as good a compensation for teachers in the junior high schools as in the senior high schools, but financial considerations will tend to keep the cost of instruction lower in the former school than in the latter.

In view of the foregoing, it seems reasonably sure that normal schools, which are today supplying nearly all of the upper grammar-grade teachers, must continue to furnish, for a long time to come, practically all of the teachers for these same grades in their reorganized condition.

In this belief the Bridgewater (Massachusetts) Normal School is setting about adjusting one of its curriculums to meet this new demand. Through its department of school administration this normal school is making a study of the intermediate or junior high school movement with reference to these points:

1. Dissatisfaction with the present arrangement of eight years elementary and four years of high school.
2. History of the progress of the intermediate school idea.
3. The main reasons advanced in support of this reform.
4. Objections to the plan from these points of view:
   a. Administrative.
   b. Pedagogical.
5. Changes involved in
   a. Program of studies.
   b. Methods of teaching.

6. The extent to which this reorganization has been effected throughout the country in general and in Massachusetts in particular.

7. Practical, even if temporary, standards of professional equipment of the intermediate school teacher.

The inquiry along these lines has led to the conclusion, already drawn, that the future success of this movement is assured. So it is not the purpose of this article to deal with any but the last topic, namely, the professional standards to be set up and worked out by the normal schools in preparing teachers for service in the intermediate schools.

In Massachusetts the recognized minimum professional equipment for an elementary grade teacher is a two-year normal school training. In addition to this two-year elementary curriculum, Bridgewater offers two other curriculums, each of three years' length. One of these equips more fully for teaching the little children of the first three grades with "a proper use of kindergarten methods." The other is "for those preparing to teach in intermediate schools, including the seventh, eighth and ninth grades." This last curriculum is the successor of what was formerly known as the "advanced three year course" intended for those who aim to teach in the *upper grades* of grammar schools. Thus there was already provided a foundation on which to build up the intermediate course.

The new curriculum already provides these opportunities:

1. More thorough training in the subject matter of those branches to be taught, such as English language and literature, history and social science, mathematics and geography.

2. A longer period of practice teaching in outside towns and cities.

3. Electives in practical science, or practical arts, or advanced geography.

With this start it is proposed to further develop this "intermediate" curriculum offered the normal students as follows:

1. A study, more thorough than could be accomplished in the two-year curriculum, of special groups of subjects, one group to be elected from among the whole number of groups.

Departmental teaching is an essential feature of the intermediate school. Its teachers, therefore, need a greater command of certain allied branches rather than a more or less superficial acquaintance with all the subjects in the intermediate school curriculum. This matter of grouping is yet to be settled satisfactorily, but for an example, geography, history, and civics might be a group.

2. A more extended study of psychology with particular reference to the problems of adolescence.

While the age at which adolescence begins and ends is known to vary with sex, race and climate, and with different individuals in the same category, it is safe to assert that the intermediate school, dealing with pupils from twelve to fifteen or sixteen years old, is concerned with adolescents to a larger extent than any other division of the public school system. Hence it follows that intermediate school teachers should be especially skilled in the treatment of youth during this momentous stage of development.

3. A study, elementary only as the limitations of earlier training and of available time compel, of economics and sociology.

So far these subjects have had too small a place in normal school curriculums; yet next to psychology and pedagogy they would seem to be necessary for a broad professional viewpoint. The intermediate school should safeguard not only the interests of those pupils who will receive vocational instruction after the completion of, or during, their high school course but also the interests of those pupils who must receive vocational guidance early in their secondary course or between the ages of twelve and fourteen, as in the case of those who are forced into industry as soon as the law permits. So far, then, as the vocational element becomes effective in intermediate school administration this science of economics can have a practical bearing upon the comprehensive training of intermediate school teachers.

The objection most worthy of serious consideration urged against the earlier differentiation of studies and the early beginning of prevocational and vocational education is that there will result a tendency to social stratification based upon varying types of educational equipment. It is not enough to say that such stratification is likely always to exist in some degree. The public school must ever recognize its paramount duty of training for a political and social democracy. This the intermediate school can do by having English, civics, history and hygiene common cores in all its curriculums and by preserving accessibility of opportunity for all pupils with regard to all courses. If the teaching of the social sciences to adolescents is to be marked by a strong grasp of fundamentals, an acquaintance with sociology, as the science that is interested in the furtherance of social welfare and tries to see to it that "individual energy" is "supplemented by group activity," is surely of real importance to teachers in secondary education.

Economics and sociology are complementary, each to the other. Both are concerned with the ends or results of public education and have a vital influence upon its aims.

4. Ample apprentice teaching in the intermediate or junior high schools.

The ninth grade is being eliminated at Bridgewater and the seventh and eighth grades are to be organized into an intermediate school so that the usual ten-week period of observation and practice in the normal training school will be had under intermediate school conditions. Also, twenty weeks, or ten weeks more than can be given in the elementary curriculum, is to be given, it is hoped, to practice in intermediate or junior high schools in outlying cities or towns. The complete realization of this latter feature will depend upon the extent to which these outside places adopt the new plan. There is every indication, however, that reorganization will be soon accomplished in a sufficient number of systems. Already one such school has availed itself of Bridgewater students as apprentice teachers.

With regard to the second direction of activity, namely, investigation into the field of methods and their underlying psychology, the program is less definite but by no means unimportant.

Some educators talk of a different psychology for cultural and for vocational education, for elementary and for high school instruction. A more acceptable statement would seem to be that we have but one psychology useful to teachers, that which helps to an understanding of the processes by which the child's mental growth takes place freely and naturally. It may well be that there are different applications of this psychology to more or less distinct stages of development; hence, a modification of the pedagogy used in the secondary period from that employed in the elementary period may be expedient. Furthermore, there is the consideration of the application of the proper pedagogy, if once it can be determined, to the different courses in the program of studies. Right here, then, lies an inducement to normal school endeavor.

It is recognized that the best way to a real accomplishment in this line of effort lies either in the selection of a special and separate field by each one of certain schools in a given region, or in the selection of one specific subject, or group of closely correlated subjects, at a time, by the single school that is dealing with a wider range of studies.

Already three Massachusetts normal schools have each specialized in a particular course. Fitchburg has a practical arts curriculum designed to fit men students for teaching woodworking, painting, printing and cement work in grades above the sixth. Framingham is training young women as teachers of the domestic arts; and Salem is preparing both men and women for teaching the commercial branches. The experience of many Massachusetts superintendents with graduates from these courses testifies to the fact that these people are coming out well equipped for their respective tasks.

The field made up of the less highly specialized subjects, such as English, social science, natural science, mathematics, and foreign languages, is yet uncultivated to any appreciable extent. And it is with regard to training teachers of these more general subjects, or groups of subjects as they may be organized, that Bridgewater sees its opportunity. Therefore, it is planned to specialize with particular reference to the development of the best pedagogy usable in teaching these branches to adolescent boys and girls, and to single out more especially one group at a time for more intensive treatment.

It is believed that not excepting even the other subjects common to all the curriculums of the intermediate school, namely, English and hygiene, social science is the most deserving of earliest attention. Reaching all students it will be most effective in training for citizenship and social efficiency. Compared with foreign languages, for example, a science so connected with civil and community interests is vastly more important in this democracy of ours.

It seems desirable not only to try to discover the best methods of teaching this science to intermediate school pupils but also to see how far and how helpfully the social ideal may be made to permeate other subjects. That the community interest can vitalize the study of arithmetic has already been shown by a member of the faculty of this school in a text book just issued.* It has been applied successfully to civics and surely can be infused into hygiene, and so on. If substantial accomplishment in this direction is realized after a few years, intensive effort can be then devoted to that group of studies that appears to be of next highest import.

But in the meantime, an endeavor, less specific and intensive because more extensive, must be made toward offering the best preparation at present devisable for teachers who are to work along all the general lines represented in the intermediate school schedule. These, it may readily be agreed, in the main are English, both appreciative and expressional; general natural science, including the proper phases of geography, physics and chemistry; mathematics, dealing mainly with arithmetic but embracing a little geometry and, possibly a little algebra; and the social sciences already mentioned. The foreign languages do not seem to be a promising field for Massachusetts normal schools. Besides, as has already been indicated, their significance in the intermediate school program is not likely to be large.

In conclusion, it is realized that so far as this particular school is related to the reform under discussion, the proportion of things accomplished to things planned for is very small, owing to the newness of the movement and to the fact that conservative Massachusetts has been a few years later in accepting the new scheme of administration than some other states, notably California and Michigan. At any rate, it is fair to say that there is at least an earnest attempt now being made by the school to harmonize aims with opportunities and obligations, as it shapes its program of future endeavor. This old school, sharing with Framingham and Westfield the distinction of being the first in America, does not purpose to rest on achievements of the past, worthy as they have been. With the old spirit of progress and service unimpaired by its seventy-six years of existence, Bridgewater still seeks to do its share of the pioneer work in education and hopes to bear its part with the young, aggressive sister schools of the great middle and far West in this, as in all, forward movements.

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* *Community Arithmetic*, by Brenelle Hunt, Principal of Training School, State Normal School, Bridgewater, Mass. American Book Co., 1916.

COMMUNICATIONS AND DISCUSSIONS

THE SIX AND SIX PLAN OF ORGANIZATION FOR THE SMALL SCHOOL

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IT is safe to say that present day educational thought is being focused more upon the readjustment of grade work above the sixth than at any other point in the school course. The advent of the Junior High School or Intermediate School has been responsible for the positing of a new set of problems the solution of which will require many years of careful investigation. It is natural that the question should present itself to the principal of the village school: Is there anything in the Junior High School idea that bids for recognition and is adaptable to the village school? The answer to this question is to be found in the so-called *six and six* plan which is being tried out in many places.

It is generally conceded that the prevailing arrangement of eight years of elementary graded instruction followed by four years of secondary departmental work is largely accidental in origin, and has no foundation in pedagogy, child psychology or physiology. The following article aims to discuss some of the possibilities which an organization based upon six years of elementary and six years of departmental work holds out. I shall, wherever possible, try to support my contentions by data obtained from my own school where such a plan of organization has been in use for the last three years.

In our own case the reorganization on the *six-six* plan came about as an attempt to remedy a somewhat crowded condition in the upper grades and balance the use of the building and to secure concentration of the teaching effort in the High School. Prior to the inception of this plan there existed, as in most small schools, a great diversity in the work required of the High School teachers. The same teacher might be compelled to teach as many as three separate subjects, and subjects entirely unrelated at that. By combining the seventh and eighth grades and High School under the departmental plan, we added two rooms for use as recitation rooms, and the services of two teachers to the High School faculty. The English work of these six years was the work of one teacher, the History that of another, the language of a third, and so on.

Conducting the work of the last six years of school on the departmental plan with all the pupils seated in one room for study purposes presents many difficulties. One great danger is that the children will suffer from the lack of that close attention and sympathetic understanding on the part of the teacher which they have been used to, and which is so important at that age. Our records of class work show a falling off in scholarship at the beginning of the seventh year in spite of our best efforts. We have succeeded in reducing this demoralization considerably by assigning a "home-room" for each of the seventh and eighth grades. A teacher who meets them in a major subject and so has an opportunity to get acquainted with them is appointed to serve in this capacity. It is her duty to keep informed of the condition of the work of each pupil assigned to her, help them arrange their study program, and mother them generally. By having the teacher who performs this function for the seventh grade one year also serve in that capacity for the eighth grade the next year it should be possible for her to be of real assistance to the pupils and the principal in guiding the entering class into the courses in high school best suited for them. I believe that with experienced teachers for the major subjects who are not new each year or two to the school and to that type of work it is possible to obtain as high a grade of scholarship as under the former grade room plan. Such positions call for college graduates generally because they must teach high school work. I do not believe that the inexperienced college graduate however is at all fitted for this work with children of ages eleven to fourteen. For purposes of comparison of results under the grade room and departmental systems I give below the percentage of pupils passing state preliminary examinations for entrance to high school in my school. These examinations run very uniformly and are taken by pupils of the seventh and eighth grades. The departmental work began in 1914.

PERCENTAGE OF PUPILS PASSING PRELIMINARY EXAMINATIONS FOR ENTRANCE TO HIGH SCHOOL IN CUBA, N. Y.

1911	1912	1913	1914	1915	1916
80.9%	83.2%	75.4%	76.9%	72.3%	80.1%

The value of any conclusion from the above is doubtful because of the changing personnel of the teaching force and resulting failures. It seems that there is every reason to believe that with more settled conditions, and with experience the scholarship under the departmental system can be made equal to and perhaps better than under the grade room plan. It is not surprising to find that a pupil requires some time to adjust himself to the changed conditions and that there is some loss in efficiency during the time of this adjustment.

To balance this loss, can we not find some evidence of increased efficiency and of the pupil having adjusted himself to the departmental plan by the time he has reached the first year high school? Such a condition should be evidenced by an increased power in such written examinations as are given in New York State. These examinations are quite uniform and may serve to measure ability to a degree. The following data bears on this question.

PERCENTAGE OF PUPILS PASSING FIRST YEAR HIGH SCHOOL SUBJECTS IN CUBA HIGH SCHOOL

1910	1911	1912	1913	1914	1915	1916
72.2%	74.7%	73.3%	68.1%	77.9%	85.1%	84.5%

Since departmental work in the seventh and eighth grades was started in 1913–14, we should look for the first effect in 1915; and a very decided increase appears then. Of course, to be of real value, this investigation must be carried through a number of years with different classes. The above data is in line with the theory that less disturbance results to the individual under the six-six plan than under the eight-four plan when he enters high school. When we consider that the pupil is at a much more critical period when he is entering high school, and is soon to be free from the compulsion of the law in the matter of school attendance, is not this gain in efficiency at this time of supreme importance? The effect of this success can be seen in the increased enrollment in high school, and the lowered percentage of pupils leaving school at the end of the eighth year. The following table shows that such has been the result with us.

PERCENTAGE OF EIGHTH YEAR PUPILS LEAVING SCHOOL

1911	1912	1913	1914	1915
7.14%	17.3%	10%	4.8%	0%

The effect of the heightened success in the first year work after installing the six-six plan in 1913–14 can be seen in the fewer numbers leaving school at the end of the ninth grade, as is shown by the following:

PERCENT OF PUPILS WHO LEFT SCHOOL AT THE END OF THE NINTH GRADE

1911	1912	1913	1914	1915
45.8%	46.1%	47.4%	5.5%	25%

I lay part of this success in keeping pupils in high school to the attention that we are giving to vocational and educational guidance, of which I shall speak later. I believe that the introduction of courses in Manual Training and Domestic Science has been a factor in securing this result also.

Another problem presenting itself in organizing the work of the last six years as one departmental unit lies in suitably adjusting the length of the recitation period to accommodate the pupils of varying ages and powers of attention. This can be solved by varying the character of the work in the recitation for the seventh and eighth grades, by using part of the longer recitation periods for study purposes (and here the teacher has a splendid chance to get in some good work in teaching sound methods of study), by correlating as much of the work as possible, and by having in the daily program two or more shorter periods for such subjects as penmanship, physiology, nature study and music. These shorter periods can be used advantageously by the high-school pupils for study purposes, special coaching classes, rhetoricals, etc. A stricter discipline must prevail in the study room because of the presence of the younger pupils than generally prevails in our high schools; the seniors may advisedly and to their profit in the higher institutions or vocations into which they will go, be granted certain privileges to relieve them somewhat of this restraint.

All the arguments in favor of the junior high school or intermediate school apply with equal force to this plan for the small school. Promotion being by subject rather than grade, the backward pupil is sure to get something of the sense of achievement and the feeling of progress when he finds that industry and ability along any line reaps its reward in promotion and that he is not apt to be subjected to the stagnating effect of repeating a whole year's work with painful exactitude. Then too for the ambitious and able pupil, there is the "flying squadron" class to challenge his best efforts. It permits the elimination of much of the "dead wood" which has encumbered the curriculum of the two upper grades so long. He may enter upon the study of language when his language power is at its best. This movement to save time in the school life of the child is a wise and economical policy.

Perhaps the most impressive opportunity to the mind of the administrator of any school containing pupils of the pre-academic age lies in the line of vocational guidance. Of this subject Davis in his recent book "Vocational and Moral Guidance" says: "Of all the problems that have been placed upon the public schools for solution, there is none more difficult, more fraught with danger, or more full of splendid possibilities than that of guiding each boy and girl into the course of study or the kind of school that will best prepare them for that particular field of service in which they may be most truly successful."

Is there to be found in our educational practice today, especially in the smaller schools, a procedure so unscientific, so lacking in foresight and so wasteful as our prevailing trial and error method of directing pupils through our secondary schools? Not until the same teacher who directs them in the selection of their high-school work gives some time to acquainting himself with these same pupils during the two preceding years, can he hope to direct them successfully.

What can we, as principals of small schools, do to meet this situation? We can meet these pupils, if our organization permits, in the recitation room in some such subject as Commercial Geography, the content of which is filled with vocational information. We can direct the reading and composition work into channels that will develop industrial insight. We can offer the children of the seventh and eighth years Manual Training and Domestic Science to discover and develop their motor tendencies. We can give talks, collectively and individually, to the children of these grades on vocational topics. We can keep records of their adaptabilities, interests, home conditions and resources so as to be in a position to intelligently advise them. My contention is that in this line of work, as in other respects, the six-six plan of organization is admirably fitted to subserve these ends in a small school as is its equivalent, the six-three-three plan in a large school.

THE COURSE IN MATHEMATICS IN THE JUNIOR HIGH SCHOOL

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IN this discussion let us assume that at the end of the sixth school year the pupils can perform the fundamental operations with integers and with common and decimal fractions with accuracy and with a fair degree of speed.

The work in arithmetic in the seventh and eighth grades at the present time consists mainly of percentage and mensuration and their applications. First let me suggest some of the limitations and some causes of difficulty in the present course in arithmetic in those grades.

The common applications of arithmetic to business, such as computing costs and selling prices, finding interest and discounts, filling out blank forms, and applying rules for finding areas and volumes, are simple and in practice are easily mastered. The most of the time given to percentage and its applications is not given to the study of mathematical relations, but to learning certain rules of business and some elements of commercial law. The difficulties met here are not mathematical difficulties, but arise because the subject matter is beyond the experience of the pupils, for example stocks and bonds, exchange, and problems from a large number of industries concerning which the pupils have little knowledge or interest.

Very few facts of geometry are now taught in the elementary school except the rules for computing areas and volumes. The teaching of mensuration often descends to the mere teaching of rules, which have no apparent connection and have no sufficient basis of geometric knowledge.

Time is wasted in applying the same mathematical principles and processes over and over again to problems which differ only in terminology. I want to say nothing that will seem to detract in the least from the importance of practice in numerical calculation and of the pupil's becoming familiar with the applications of arithmetic that are likely to arise in practice. But it is clearly impossible for a pupil to study and to solve enough problems from forty or fifty occupations, as is sometimes attempted, so as to get a mastery of each. If we are to limit the pupils in the seventh and eighth grades to computations with Arabic numerals, that is, to omit entirely all representation of numbers by letters, and to limit the range of their geometric knowledge to the elementary formulas for finding areas and volumes, then it may be necessary, in order to hold their interest, to bring in problems from this variety of sources. But these limitations appear to me to be unwise. It would seem to be better to take more of the time in giving a wider range of mathematical facts and principles with sufficient practice to fix them. The course in arithmetic in the seventh and eighth grades is not organized to prepare boys and girls for particular trades. It ought to be organized to prepare them for further work either in school or outside of it with a basis of useful mathematical knowledge as broad as possible. We have heard much about making the courses in mathematics informational. There seems to be some danger of forgetting that some of this information may properly be mathematical information.

It seems to me that in the course in mathematics in the seventh and eighth grades the emphasis should be placed upon the mastery of the simpler parts of commercial arithmetic, the parts that are in very general use; the elements of algebra; a connected body of geometric knowledge, including not only the rules for areas and volumes but also the simpler properties of geometric figures; and much practice in computation with insistence on checks. There should be many applications of the mathematics studied to problems with the data of which the pupils are or should be made familiar.

Percentage and its application to such topics as discount, profit and loss, and interest should be taught in the seventh year. This is of course the usual practice at the present time. The more difficult parts of commercial arithmetic I should certainly want to postpone until the ninth year, at least, when the pupils have more maturity, experience, and mathematical knowledge.

The work in mensuration should be reorganized so as to include along with the formulas for areas and volumes a systematic development by observation, measurement, and construction, of the elementary properties and relations of geometric figures. This course in concrete geometry should lead gradually to methods of abstract and formal proof.

The principal objects of the work in algebra should be to give practice in generalization, and in the use of formulas and the simple equation in the solution of problems. This is not to be a course in formal algebra, in algebraic manipulation, any more than first-grade arithmetic is a course in computation. This work should give an introduction to algebraic notation, showing its use and value in the solution of problems.

I believe that exercise in generalization and logical deduction, some practice in which should certainly be given in the course in mathematics in the seventh and eighth grades, can be given much better by using some of the elements of algebra and geometry than with our present array of problem material. The elements of algebra and geometry offer much simpler material than is found in the difficult problems of our arithmetic. But the most important argument for the introduction of the literal notation and concrete geometry into the seventh and eighth grades is that the mastery of the facts and methods involved furnishes tools that make the solution of many problems much simpler and easier. There is no good reason why pupils should not be put in possession of these tools much earlier than they now are.

It is estimated that algebra is now taught in either the seventh or eighth grade in from thirty to thirty-five per cent. of our large cities. The percentage in the country as a whole is of course much smaller.

This instruction in algebra has often been unsatisfactory, and in some cases has been discontinued. The reason seems apparent. There has been transferred from the ninth grade to the seventh or eighth grade, with little or no change, a portion of abstract and formal algebra. The most of us think that this material needs reorganization to be suitable for the ninth grade, much more for the seventh or eighth grade. This algebra has been formal and often uninteresting. It has not been well taught in the grades. Furthermore, almost exactly the same material has been repeated in the first year of the high school. Here it has been less interesting than before, for it is stale. This algebra has not been of much use to the boy who does not go to high school, because for the amount given him it is not the proper material; neither does it appeal to the boy who goes to high school, who has to repeat it—ideal conditions to make a subject a failure.

In mathematical education there are three noteworthy steps from the concrete to the abstract. The first is made in the early years of the elementary school where the child goes from the concrete to the abstract, from the notion of number as a property of a particular group, to the general conception. The second is the transfer from particular numbers represented by Arabic symbols to general numbers represented by letters. The third step is made in going from a particular function, as $3x$, to the general function $f(x)$. The teacher in the elementary school knows the difficulties of the first step and gives a well organized series of concrete experiences to put some meaning into number symbols and the operations with them. It takes many experiences to pass from dealing with objects to dealing with numbers in the abstract, from 3 apples to the number 3. So are many experiences necessary to pass from 2x3 to $a \cdot b$. When we are as careful in making the latter transfer as the former, algebra will not be simply a game in manipulating symbols, but will have meaning and its uses will therefore be more evident. Now this transition from 2x3 to $a \cdot b$ should be made earlier than it now is in most American schools, certainly not later than the seventh grade. Beginnings can be made in formulating general statements involving letters, in solving problems by the aid of simple equations in one unknown, in stating rules as formulas, and in using formulas, as $A = ab$, for the area of a rectangle. Such work is interesting, and can easily be shown to be valuable. It is valuable for the pupil who goes no farther than the eighth grade, and it is a necessary preparation for a profitable study of algebra later.

The pupil who is well trained in arithmetic in the first six grades will have a fair degree of speed and accuracy in the fundamental operations. This facility must not be allowed to lapse, but must be increased. It will not be increased simply by solving problems in which computation is required, but must be increased by drill in which accuracy and speed are the special aims. Hence the course in mathematics in the high school, especially in the junior high school, must put much emphasis on drill in computation.

It is well known that as compared with children in other leading nations in the world, the pupil in the American school is at the end of the second school year, so far as accomplishment in mathematics is concerned, one-half year behind; at the end of the sixth school year, one year behind; and at the end of the twelfth school year, two years behind. There are a number of factors contributing to this result, longer school year, better prepared teachers, economic and social pressure, to mention a few of the most evident ones. But one of the most important factors is the earlier introduction of algebra and geometry, and their pursuit through a longer period of time. Algebra is begun in the sixth school year in France and in the seventh in Germany and Austria. Geometry in some form is begun in all of these countries in the fifth school year. The courses of instruction in these subjects run through from six to eight years. It is quite reasonable to suppose that our results in mathematics would be much improved by an earlier introduction of algebra and geometry and longer courses.

There is of course nothing novel in the suggestions made here for the reorganization of the course in mathematics for the seventh and eighth grades. Such recommendations were made in the Report of the Committee of Ten. The Report of the National Committee of Fifteen on Geometry Syllabus emphasizes the need for an introductory course in geometry in the grades. The organization of junior high schools offers an excellent opportunity to put these recommendations into practice. The ends proposed can be accomplished by means of a combined course of arithmetic, algebra, and geometry extending through the seventh and eighth grades. The ninth year's work should be algebra, in which a wider range of geometrical applications could be given than is possible under the present arrangement. The mathematics of the tenth year should probably be demonstrational geometry. In the last two years of the senior high school there could be offered advanced algebra, solid geometry, trigonometry, and perhaps one other subject.

In this discussion I have had in mind the general high school, such as exists in a small city with but one high school. However, it seems to me that the mathematics taught in the seventh and eighth grades should be practically the same in all seventh and eighth grades, differentiation being made in the applications to problems best suited to local needs.

I have discussed mainly the redistribution of the subject matter in the course of study in mathematics. Many people, no doubt, think that it is much more important to consider the changes that should be made in the subject itself. There are today some well defined tendencies in the teaching of secondary mathematics. The two most important are: To make the study of mathematics less formal, and to make it more intuitive, concrete, and practical; and to give this instruction more unity. These ideas should operate in constructing a course of study for a six-year high school about the same as for other schools. The tendencies toward simplification of subject matter and emphasis upon simple and practical applications become increasingly important as algebra and geometry are offered earlier in the grades.

I have recently examined the courses of study of a number of junior high schools. In the most of these the course of study is the conventional one, arithmetic required in both the seventh and eighth grades. In one a composite course of arithmetic, algebra, and geometry is offered in the seventh and eighth grades, and in two others such a course is offered in the eighth grade. No general conclusion is to be drawn from the data at hand, but so far as it goes it indicates that the change from the four-year to the six-year high school has had but little effect upon the course of study in mathematics.

BOOK REVIEWS

Abraham Flexner and Frank P. Bachman. *Public Education in Maryland.* A Report to the Maryland Educational Survey Commission. New York: The General Education Board, 61 Broadway, 1916. (Pps. XVIII and 176.)

The General Assembly of Maryland, in 1914, created a Commission to make a comprehensive study of the state-aided elementary and secondary schools and higher educational institutions of the state. Following a suggestion contained in the Act, the Commission arranged with the General Education Board to conduct the survey, the state appropriating $5000 which was supplemented by $7500 appropriated by the Board. The present substantial volume, dealing only with the elementary and high schools of the state outside of the City of Baltimore, is a report of the survey as conducted by Mr. Abraham Flexner and Dr. Frank P. Bachman, assisted in special lines by Mr. Jackson Davis and Mr. W. W. Thiesen. The book, which is mailed free, on request, by the General Education Board, is a valuable contribution to current educational literature.

The preface by the Commission presents the origin, purpose and scope of the survey. The Commission expresses its unqualified endorsement of the report submitted, its belief in the efficacy of the remedies proposed for existing evils, and its satisfaction that the plan suggested is simple, clear and easily applied.

The Introduction summarizes the findings of the survey. The organization of public education in Maryland is found to be sound and to need little revision. There is a strongly centralized state control under a State Board of Education and a State Superintendent; the county is the local unit of administration. It is also reported that the state deals generously with its public schools in the matter of money. There is no need of increased appropriations, yet, "a system of public education, in the main soundly conceived, yields on the whole extremely unsatisfactory results." "The large majority of the schools are poor; teachers are, for the most part, poorly trained; instruction is ineffective and obsolete; children attend school with disastrous irregularity; school buildings are far too often in unsatisfactory condition, school grounds frequently neglected and untidy."

The causes adduced for these deplorable conditions are (1) lack of sufficient staff and office force in both state and county departments, (2) untrained and inexperienced officials, (3) unwise distribution of state funds. The underlying cause, back of those just stated, is that public education in Maryland is in politics. They permeate the system from top to bottom, determining the composition and attitude of the State Board of Education as well as the selection of the county superintendent and even of the one room rural teacher. The remedy, therefore, is first of all, to remove by legislation as far as possible from political influence, the appointment of school officials and to secure their selection on a basis of training and merit. Suggestions toward this end together with recommendations for a more equitable distribution of state funds form the chief constructive findings of the report.

In making the survey Dr. Bachman visited over 16 per cent. of the white teachers and 10 per cent. of the colored teachers of the State. In judging instruction he made no use of standard tests and measurements. Failure to do so is defended on the ground that "the technique of testing is perhaps hardly, as yet, well enough established to warrant a state wide application." The tests which he applies to instruction are (1) whether the pupils are mastering the tools of knowledge, (2) whether the material used is derived from the child's experience and needs, and (3) the child's progress in school. On all these points the rural schools of Maryland, with few exceptions, are thoroughly condemned. The cause, as stated before, is lack of trained teachers, poor equipment, inadequate supervision, no enforcement of compulsory education.

Statistics of attendance, finance, etc., are sparingly used and are usually accompanied by graphs. No comparisons are made with other states. The omission is made necessary, as stated, by the lack of comparable data due to antiquated systems of reports and accounting.

The book closes with three chapters briefly and clearly setting forth needed improvements in the State organization, in the county organization, and in the financial system. A later volume will report on the higher educational institutions of the State.

J. T. GILES.

Richmond, Indiana.

W. S. MONROE AND COLLABORATORS. *Report of a Survey of the Public Schools of Leavenworth, Kansas.* 1915. Bureau of Educational Measurements and Standards, State Normal School, Emporia, Kansas, Vol. IV, New Series, No. 2. (Pp. 202.)

This survey typifies the Kansas striving for progressive ideas and reform. It was originated by the superintendent and teachers, the funds for it were largely raised by them, and they co-operated in every phase of it. A commendable innovation is a supplement by the superintendent showing what changes had been brought about by the survey before its publication. These new features only add to its numerous merits for occupying a prominent place in the list of small city school surveys thus far made.

The director of the survey was Dr. W. S. Monroe, Professor of School Administration in the Emporia Normal. He had on his staff Miss Flora J. Cooke, Principal of the Francis W. Parker School; Miss Ella V. Dobbs, Assistant Professor of Manual Arts, University of Missouri; Miss Minnie E. Porter, Instructor in English, Kansas State Normal School; and Dr. W. R. Smith, Professor of Sociology and Economics, Kansas State Normal School. He also had an advisory committee of Dean Bagley of Illinois, Dean Charters of Missouri, and Professor Bobbitt of Chicago.

The bases on which the survey was made are stated as follows:

"The purpose of a survey of a school system is to stimulate and assist in its future development by revealing existing conditions, recommending plans for enlarging the service to the community, and for increasing the efficiency of the present activities of the school system. The bases for making recommendations are two: First, general principles of education; second, the defects in the present educational practice within the system."

These ideas really governed the work which has been very carefully and sanely done. The whole keeps well in mind the generally accepted principles for good surveys such as putting commendable features first, avoiding personalities, etc. The method most used is that of a careful description of existing conditions, a statement of principles or standards as conceived by the particular writer of that section, and the evaluation of conditions in terms of these standards. Of course the standards are in the beginning only the opinion of the particular writer. But unlike some surveys where each man signs only his own part and he alone is responsible for it, each section here was also passed upon by the staff and advisers. The standards thus represent a consensus of opinion of a considerable body of competent educators. There is no outstanding or gripping statement of standards such as one recalls from McMurry in New York, Hillegas in Vermont or Bobbitt in San Antonio, although the influence of the latter's views are apparent enough in the formulation attempted. But the standards for each division are effective enough in their fields.

One feature sure to appeal to progressive superintendents who wish to do their own survey work, is that

"Practically all of the data relating to buildings and material equipment and many other items were collected by the superintendent with the assistance of the teachers. The tests were given by the principals and teachers, and most of the clerical work, except the typewriting, was done by substitute teachers. The manuscript of the report has been read and criticised by the superintendent and teachers."

The survey covers practically all the topics given in the best surveys in logical order, beginning with the general needs of the community and winding up with the relations of the school and the community. About three-fourths of the whole is occupied with detailed treatments of the curriculum and teaching, subject by subject. Much of the general material will be of small value elsewhere because of the local conditions at Leavenworth which depends for its prosperity largely upon government and state institutions. The curriculum treatments by subjects however will be of great value any place.

The report by the superintendent showing what the schools had already done to remedy conditions before the survey was printed, is a feature worth incorporating in any survey.

It is to be noted that this survey also gives special prominence to high school work. There is little material on the high school that can be found directly under this title from the chapter headings. But wherever any topic connected with the high school is treated, the high school phases are duly treated. And this is carried out even to the giving of a standard test in algebra.

The survey is so good that one regrets that it has not been organized or presented so as to influence the lay reader. It is confessedly written for the teachers and each teacher can take up the portions dealing with her special work and be profited. But there is no organization that will enable her to see the meaning of the whole or to grasp quickly the essentials in other phases of the work. For example there are twenty-three chapters covering in all 196 pages. Each chapter appears in the outline to be as important as any other. The one on spelling and the one on general features of the community rank alike. There is nothing in the way of graphs, comparatively little tabulation, and no listing of the things that must be done as a program of action, for the whole. The language, organization, devices, etc., while intelligible to teachers, would not particularly appeal to lay readers. For the purposes intended and with the funds available, it may be that the survey accomplished all that could be expected of it. One wonders however if the organization and presentation necessary to make a survey take hold of the general public, would not also make it more effective with the teachers. For example if the survey had been intended for the public, it is very doubtful if the matter of speed in handwriting would have been completely ignored. And one questions the advisability of having any publication of a survey, if that survey is to be effective, stop short of aiming to place itself quickly and forcibly before the average intelligent and interested but busy citizen.

This will not interfere with the very great value of the survey in other respects for teachers and superintendents in small city systems.

Carter Alexander.

George Peabody College for Teachers.

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Vol. II September, 1916 Number 7

EDITORIALS

The Junior High School Movement—Party Planks

Absolutists.

WE go on record as opposed to the so-called "reorganization," or rearrangement of the grades of the public school system. It should indeed rather be called the "mutilation" of the great American common school. The present system represents the pooled educational experience of all our common school development and is, in the absence of proof to the contrary, likely to be better than any newfangled arrangement devised by theoretical "experts." We wish to let our slow but undeniable developments in public education proceed unjarred by such sudden and violent readjustments and to see internal improvements refined and teachers and teaching bettered rather than witness a wholesale but superficial tinkering with merely administrative externals under the guise of educational reform. If the junior high school is started and sanctioned by our great and conservative party it might spread widely. In such case many old superintendents who cannot do modern curriculum thinking will experience painful jolts and some will even lose their jobs. It is certain too in our attitude of opposition we may count upon some school patrons, some school teachers and some school board members to object. A further consideration which makes ours a "safe" position is that many proponents of the new scheme are over-enthusiastic and hence will make many easily assailable statements and claims.

EXPERIMENTALISTS.

We believe in "reorganization" just because, partly, it has been one of the widespread and vigorous developments of which we are now merely becoming aware. It has come out of the very loins of our progressive school experimenters—those who do our constructive "curriculum thinking." It represents in its various types the very sort of wholesome administrative experimentalism in educational practice for which our party stands. We also believe in it because practically none who have adopted it have found reason to abandon it. This plank in our platform implies decisive attitudes regarding other sound reforms and new practical steps looking toward more design in our school administration, especially in the administration of the curriculum.

C. H. J.

High School Credit for Bible Study

WE are indebted to Superintendent Paul C. Skorupinski for the following news item, and for the liberty of quoting his personal letter stating his professional attitude toward the experiment.

The resolution of the board of education of the public schools of Corning, Iowa, is as follows: "Whereas the board of education and superintendent firmly believe that Bible study is as important and valuable educationally as any other subject taught in our public schools, and whereas we believe that this part of education has been sadly neglected in our public schools, be it, therefore, resolved that Bible study be put into the high school curriculum as an elective. Instruction may be given by the pastors in the Sabbath Schools or wherever they may see fit. Instructors must conform with the North Central Association requirements in which our high school holds membership. For this work, a student is to receive credit toward graduation, sixty hours of recitation entitling him to one credit, and one hundred and twenty hours to two credits, not more than two such credits to be applied and not more than two hours' recitation per week to be permitted, credit not being applied until a satisfactory examination has been passed, the passing mark being 75 per cent. Instructors must make regular six-weeks' reports of attendance and scholarship to the Superintendent. Text books are to be loaned free of charge in accordance with our free text-book plan. The text to be used is 'Sanders's History of the Hebrews.'"

Superintendent Skorupinski adds that the high school enrollment is 212 and that forty-four have registered in Bible study. At present there are three classes conducted by three pastors, all of whom are graduates of North Central Colleges and all of whom offer their services free of charge. One class is a Sunday School class and is not doing good work. The other two are evening classes, are doing excellent work and are enjoying it immensely. This year only the "pick" of the students are permitted to take it. It is planned to offer the course next year as a regular elective course to be taught by one of the high school English teachers who will make special preparation during the summer.

"It is needless to say," he adds, "that I believe in the work, that the pastors and students believe in it and that we are all thoroughly enthusiastic about it. Attendance at the evening classes is almost perfect."

C. H. J.

BOOK NOTES

LEONARD P. AYRES AND MAY AYRES. *School Buildings and Equipment.* Cleveland: Cleveland Educational Survey, 1916. (Pp. 117. Price 25 cts.)

Cleveland's record in the matter of buildings and equipment is good. The newer buildings are of the most approved type of school architecture, though their locations are not by any means in all cases desirable.

An interesting description is given, with illustrative cuts, of the type of school buildings constructed in Cleveland in each decade since the 50's. Many of the older buildings are, of course, faulty in construction, according to modern ideas of hygiene, but they are being improved.

On the whole Cleveland has handled its building problem well, providing good buildings at a reasonable, even at a comparatively low cost.

NICHOLAS MURRAY BUTLER. *The Meaning of Education.* New York: Charles Scribner's Sons, 1916. (Pp. xiii & 383.)

This is a revised and very much enlarged edition of the author's earlier work. In it are included fourteen new chapters, while two chapters of the earlier edition are wanting. The book is composed almost entirely of addresses delivered by the author at national meetings, some of them as early as 1896. While the new volume includes much new material, it is nevertheless evidence of the fact that the convictions and opinions of the author on education have not changed since the publication of the earlier work, but have simply been strengthened.

ALFRED LAWRENCE HALL-QUEST. *Supervised Study.* New York: The Macmillan Company, 1916. (Pp. xvii & 433. Price $1.25.)

This volume will be welcomed as one of the few contributions to the literature dealing with supervised study. The author has here made a study in a field which has been pretty generally neglected until very recently. He discussed the nature of supervised study and the various forms it has taken. He summarizes the results of earlier investigators and experimenters and bases certain conclusions on these and the observations that he himself has made and the data from various high schools that he has collected. He avoids, for the most part, theoretical discussions and deals with conditions. After his more general treatment he devotes one chapter each to the supervision of study in English composition, history, civics, mathematics, science, and the languages. The book is well written and should be widely read and discussed.

JESSE FIELD AND SCOTT NEARING. *Community Civics.* New York: The Macmillan Company, 1916. (Pp. x & 270.)

This is an elementary text for country schools. The authors endeavor in it to develop in the country boys and girls an appreciation of the opportunities for self-development and for real social service which country life affords them. Inspiring examples of community co-operation in all sorts of worthy enterprises, such as road-building, improvement of school grounds, etc., are given in order to stimulate the country boys and girls who read the book, to take upon themselves the responsibility for making their own communities better places in which to live.

The book stresses throughout the community rather than the State or Nation and the personal and informal social relations rather than the legal organization and the anatomy of government, which comprised so large a part of the older civics books. It illustrates well the growing tendency to relate the subject matter of the schools to the existing interests of the pupils.

DAVID MITCHELL. *Schools and Classes for Exceptional Children.* Cleveland: Cleveland Educational Survey, Leonard P. Ayres, Director, 1916. (Pp. 122. Price 25 cts.)

Cleveland has not, in the author's opinion, been given due credit for its pioneer work in providing for the exceptional, or deficient children. The system in use, of having blind children in recitations with seeing children, is commended, and it is recommended that the deaf also be included in such normal classes during the recitation period. More care needs to be exercised in segregating the feeble-minded, both during school age and after they reach maturity. The work that Cleveland is doing in this line is strongly approved.

IRIS PROUTY O'LEARY. *Department-Store Occupations.* Cleveland: Cleveland Educational Survey, 1916. (Pp. 117. Price 25 cts.)

This monograph, devoted to a discussion of department-store occupations, is one of a series of eight dealing with vocational education, all of the nine belonging to the Cleveland Educational Survey. It gives information about the work, regularity of employment, pay, promotion, etc., in the various kinds of department stores of Cleveland. It also treats the problem of the proper training for department-store occupations.

ARVIN S. OLIN. *Outline Studies in the History of Education.* Lawrence, Kansas: Printed by the Journal-World, Lawrence, Kansas. (Pp. 143.)

The present volume is the third and revised edition of the Outline Studies. As in the preparation of the second edition, the author has here taken advantage of recent additions to the literature in the field of the history of education, and has brought his references up to date, at the same time eliminating some of the less valuable of those among his earlier lists.

It is a full outline. One might however question the possibility of developing at all adequately such an outline in one semester, as the author proposes.

BERTHA M. STEVENS. *Boys and Girls in Commercial Work.* Cleveland: The Survey Commission of the Cleveland Foundation, Cleveland Educational Survey, Leonard P. Ayres, Director, 1916. (Pp. 181. Price 25 cts.)

The needs of boys and girls in preparation for commercial work are discussed in connection with a description of the particular conditions in Cleveland. An interesting part of the report is that which contains a comparison of the training needed by boys and that needed by girls. Boys are normally promoted from clerical positions to the positions of salesmen and administrators. Girls, on the other hand, are rarely promoted from clerical positions to a different kind of work. They are, as a rule, simply advanced in salary as they become more proficient in their particular work. It follows, then, that the preparation of boys for commercial work should be rather general, while the preparation of girls should be specific.

WILLIAM T. WHITNEY. *The Socialized Recitation.* New York: The A. S. Barnes Co., 1916. (Pp. x & 100. Price 50 cts.)

The author considers the common form of recitation a failure, in so far as the larger purposes are concerned. He conceives the recitation as a proceeding in which the pupils feel the responsibility for the success of the meeting. It is a place for free discussion, rather than for examination.

It is somewhat questionable just how far the proposed methods could be employed in the lower grades, which are included in the author's scheme. His examples of socialized recitations are disappointing, but his general idea is certainly good.

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FORTHCOMING ARTICLES

The
OCTOBER
NUMBER
of the
Journal of Educational Psychology
will contain
the following
Articles

W. F. Dearborn, J. E. Anderson and O. Christiansen, Harvard University. *Form Board and Construction Tests of Mental Ability.*

A color-form test, five form-board tests, a performance test and a construction test are described, and tentative norms are indicated for different ages. Plans are outlined for a graded series of construction tests.

Irving King and Hugo Gold, University of Iowa. *A Tentative Standardization of Certain "Opposites Tests."*

"The object of the present study was to take certain lists of words which have been used by various experimenters for opposites tests, to give these tests under the best possible conditions, to standardize a list or lists from which one may expect reasonably uniform results, and to standardize the grading of opposites tests by determining the words likely to be given as the opposite of each word, their frequency, and their relative values."

S. Monroe Graves, Wellesley College. *A Study in Handwriting.*

The author secured 604 samples of handwriting from elementary school pupils under controlled conditions, and studied them to discover the relative value of methods which differ in such mechanical factors as slant, spacing, formation of letters, manner of holding the pen, and movement of the arm, hand and fingers.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

The Efficiency Expert in Education

D. A. Anderson

University of Washington, Seattle

THE presence of the efficiency expert in some of our more progressive school systems is conclusive proof that society is demanding a more scientific procedure in the important business of public education. Communities are appreciating more and more the value of schools and they are eager to have them become increasingly serviceable. They recognize also that schools frequently become cumbersome and as a result entail waste and inefficiency.

The loss and lack referred to are the natural conditions of rapid growth. They appear not as a consequence of weakness at any given point, but rather because of an unfortunate combination of circumstances. School systems have rapidly increased in size and have multiplied the duties and responsibilities of administrators. These officials like other human beings when overburdened attend to the immediate needs and in a measure neglect the more remote. They are rarely able to correct difficulties at their sources. Administrators are not always to blame for the presence of weaknesses in their systems—indeed the multiplicity of duties devolving upon them makes it quite impossible even to be aware of the presence of certain weaknesses that continue unchecked.

Another misfortune which must be admitted even though lamentable is the presence of altogether too many inefficient teachers, supervisors, principals and superintendents—men and women who hold positions more or less sheltered, where certain deficiencies are apparent neither to themselves nor to those employing them. This inefficiency is probably more due to ignorance of surmountable shortcomings than to incapacity. In order to overcome these defects, to conserve instead of waste public funds and human capacities, the school systems need efficiency experts; men whose positions should be coördinate with and reciprocal to those held by superintendents; men who are clear visioned, rational and constructive; men who can select the problems most needing investigation and direct research toward their solution; men who can detect the elements of success and determine the causes of failure; men who are capable of making the individual teacher or administrator see himself clearly in the light of what he ought to be without destroying self-assurance; men who can criticise in a constructive way, whose criticisms will be inspiring, rather than depressing, whose influences will make for increased efficiency all along the line; men who can scientifically diagnose educational situations and prescribe remedies; men who can see weaknesses in men and in methods of procedure; men who can outline programs of improvement which will guarantee conservation of means and abilities, and increase in efficiency.

Illustrative of the work that has been done and is being done by some of the successful men now connected with city school systems and devoting themselves mainly to this matter of efficiency, I present the following:

S. A. Courtis, Efficiency Expert, Detroit Public Schools. Has developed standardized tests in the fundamental operations in arithmetic.

David Spence Hill, Director of Division of Educational Research, New Orleans. Has made a scientific study of the public schools in relation to vocations.

J. W. Studebaker, Assistant Superintendent of Schools, Des Moines. Has made a thorough study of the teaching of spelling in the report of which he shows that "along with a reduction in time of 25 minutes per week, the efficiency increased 25 per cent."

Equally or more important are the organized departments of research of which the following are typical:

Division of Reference and Research, New York City, Albert Shiels, Director. Several valuable publications, Number 6, 1915.

Bureau of Information, Statistics and Research, Oakland, Wilfred E. Talbert, Director. Publication Number 1, June, 1915.

Department of Educational Investigation and Measurement, Boston, Bulletin Number 4, October, 1915.

In addition standardized tests have been developed by Ayres, Freeman, Hillegas, Kelly, Starch, Stone, Thorndike and others. These references indicate but meagerly the work accomplished by the experts and departments concerned and reveal but faintly the extent of the field now languishing for want of such service. What has been accomplished is greatly to the credit of those doing the work and to the school systems employing them or utilizing their tests.

Although a few have devoted some attention to teachers, heretofore efficiency experts have confined their work chiefly to pupils. In most instances they have done careful and effectual work, and their efforts should be continued and extended. While the capabilities and development of children reflect rather clearly the efficiency of teachers and administrators, we must not deceive ourselves by thinking that these tests alone are sufficient. It is imperative that the higher-ups be more directly scrutinized. Teachers, supervisors, principals and superintendents should be studied in a definite and thorough-going manner. Their functions, qualifications and methods should be scientifically determined.

As a first duty, the efficiency expert should gather all possible information obtainable from authorities in educational administration and supervision, school boards, school officials and teachers, and other responsible students of the problems of educational efficiency. From this information he could abstract a consensus of opinion which would go far in enabling him to determine standards suitable to the needs, conditions, and requirements of the school system concerned. With all these data and conditions before him, he should be able to analyze his problem—ascertain the elements in the make-up of successful and efficient administrators, supervisors, and teachers; and outline the functions, fix the responsibilities, and designate the specific duties of each. In this way over-lapping of functions, misunderstanding of duties and responsibilities, and the neglect of certain phases of important work together with the enormous waste resulting from such loose organization would be overcome in large measure.

By the application of his standardized tests, he should be able to clearly and scientifically ascertain and indicate in detail the efficiency of every administrator, supervisor, teacher and pupil in the system; every method of procedure; and every school policy. It is as fundamental to successful school work to really know these things as in agriculture to know good seed or the chemistry and bacteriology of the soil. The expert's presence should be the guarantee of a reduction of waste to the minimum and the increase of efficiency to the maximum. He should become the greatest support of every worthy administrator and teacher—the most reliable ally in every desirable educational situation.

Second to none in importance is the expert's responsibility as director of educational research. The major portion of this research is done by principals, supervisors, and teachers under the direction of the expert. In the process of organization and interpretation he becomes the technician dealing with data in a purely scientific manner. Facts are objectified, bared of all associations, made impersonal, and credited on a basis of real worth. As a result his conclusions are founded on conditions that have actual existence, and his interpretations and recommendations are received as valid and reliable. When school problems find solution through such methods our schools will make the progress expected of them.

As previously noted, communities are increasingly interested in their schools. There results an increasing demand for a central office where exact and unbiased information may be readily obtained. This office should serve as a coördinating medium between the school and the busy community, providing for the public ready access to the details of its chief enterprise. The public has a right to know concerning the efficiency of administrators, teachers and supervisors; the distribution of the budget; division of funds between elementary and secondary education; the actual and relative cost of certain types of education; the percentage of retardation in the several grades; how many pass from the eighth grade into the high schools; where eliminations are most numerous and why; whether or not too much time is devoted to a particular subject; if some phases of work are neglected; and innumerable other items. At present much of this work is not generally done in an adequate manner. As a result complaints arise. One reason for adverse criticism of our schools is the dearth of information concerning the achievements of the schools. School men are slow in exploiting their wares. The public should be told in clear and simple terms what the schools are doing, the improvements that are made, and the aims for the future. This type of legitimate advertising, or more truly reporting, will do much to overcome the rather general and sometimes well founded feeling that the reports sent out from administrative offices are framed with the intent of emphasizing the value of certain policies and of minimizing equally definite defects. The people wish and deserve unbiased and full reports.

Too, the school board, being responsible for the conduct of the public schools, needs the assistance of the expert in the various phases of its work. To illustrate, in the selection of administrators and teachers this individual should gather data in reference to the history, academic and professional training, and the kind and amount of experience of those seeking positions. He should also obtain full information concerning those already in the employ of the board. His data should constitute the basis for election to positions, promotions and advancement of any kind, and for dismissal when such is necessary.

Now the superintendent of schools is charged with too numerous responsibilities and duties to be held accountable for many of the defects in his schools. He needs the coöperation of a trained man who can devote himself to the study of the system, who has time and opportunity to detect the causes of inefficiency and prescribe the remedy. After this work is well done is the time for the administrator to make the changes needed. On the basis of data gathered by the expert, the superintendent might conclude that certain workers should be promoted, some advanced in salary, and still others eliminated from the system. He would feel justified also in initiating various other changes in method and procedure because standard tests would have proven the new both economical and more efficient. In order to make his administration efficient in all ways, and as a consequence promote both personal and public interests, the superintendent certainly needs the coöperation of the efficiency expert; and not until such expert assistance is provided should he be censured or held accountable for unfortunate conditions which are quite beyond his reach.

In a similar way the efficiency man helps and strengthens supervisors, principals, and teachers. Each one in his sphere of activity and with his individual responsibilities profits through the services of this new functionary. For example, the supervisor whose subject is not generally appreciated is enabled to demonstrate its true worth and as a consequence his work is accorded its rightful recognition; the principal handicapped by a non-progressive superintendent or tradition-bound system is given an opportunity to forge ahead and function to his full capacity; and the teacher with ability but failing is helped by constructive criticism to see and overcome weaknesses. The passably good teacher is enabled to know the better way and accordingly become a superior teacher, the superior teacher finds out more ways of serving without increasing her work or taxing her energies and as a result becomes a more valuable asset to the community. Everywhere the opportunity for improvement is revealed and new inspiration results. Increase in efficiency, economy of time and energy, lessening of waste, and in short larger dividends in the form of more capable boys and girls, are the almost inevitable results of having an efficiency expert working in an educational system.

Large cities should have a bureau under a competent director, dividing the different phases of work among various specialists. Small cities could get along with a single individual devoting all his time to such work. In still smaller places and in rural sections units of appropriate size should be established for this type of activity. In order to serve without bias or handicap the tenure and comfort of those chosen to do this work should not be contingent upon the favor of any other school official. They should probably be selected and appointed by the school board or some other authorized agency and be held accountable only to the appointing authority. Efficiency experts can not immediately bring order out of chaos, overcome all waste, eliminate every weakness, and raise schools to the *n*th power of efficiency, but they are certainly effectual means to these desirable ends.

A Brief Tabular History of the Movement Toward Standardization by Means of Scales and Tests of Educational Achievement in the Elementary School Subjects

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IN the following pages the writer has attempted to present in brief tabular form the development of scales and tests in the various elementary school subjects. He is forced to acknowledge that his list of investigators and investigations is more or less arbitrary. He has endeavored to give some consideration to all attempts in the field which have resulted in some definite scales or tests for measurement in any of the elementary school subjects, together with some of the more noteworthy attempts at standardization by means of scales or tests already worked out. Much time and space might be profitably devoted to a discussion and evaluation of the individual contributions listed in the tables. The limits of this article will allow only a summary of this sort.

The tables are self-explanatory. They present simply those facts which are essential to an understanding of the nature of the tests which have been devised, of the extent of the movement toward objective measurement in school work, and to a comprehension of present tendencies in the formulation of such tests.

The earliest recorded attempts at anything approaching systematic testing on a comprehensive scale in the elementary school subjects were begun by J. M. Rice[1] in 1895. Rice did not do preliminary testing as a basis for a scientific investigation and his conditions for testing were by no means uniform. Some years later O. P. Cornman[2], and still later C. W. Stone[3], improved very much the methods of this earlier investigation in arithmetic. It remained for S. A. Courtis[4] to extend the work of Stone, apply tests on an extensive scale, and set up standards of achievement for each grade. Rice's name deserves a prominent place in the list of investigators in this field, not for the practical value of his immediate results, but for his success in stimulating further investigations.

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[1] *Educational Research, A Test in Arithmetic,* The Forum, Vol. xxxiv, pp. 231–297.

[2] *Arithmetical Abilities and Some Factors Determining Them,* Columbia Contributions to Education, Teachers College Series, No. 19, 1908.

[3] *Measurement of Growth and Efficiency in Arithmetic,* Elementary School Teacher, Vol. 10, pp. 59–74 and 179–199 and Vol. 11, pp. 171–185, 360–370 and 528–539.

[4] *Standard Scores in Arithmetic,* Elementary School Teacher, Vol. 12, pp. 127–237.

The investigations in the field of objective measurement in the elementary school subjects can be roughly classified into non-analytic and analytic. In the first type of study, and this is the general type of most of the earlier studies, the educational product has been taken in the rough, and little attempt has been made to discover the particular points of strength or weakness. The handwriting scale of Thorndike and the composition scale of Hillegas represent well this type. As contrasted with these in the same subjects, the handwriting scales of Houston, Freeman, and Gray and the Harvard-Newton composition scale represent very clearly the analytic type.

In the construction of scales of the first type the authors used the judgments of a large number of people, as to the general merit of the specimens. No attempt was made to determine the particular merits or defects of any sample of handwriting or composition. Many of the judges were selected because of their special qualifications for judging in these fields, but their judgments represented only their general impressions. Thorndike did not contend at the time of his investigation that this method should be finally accepted. He simply maintained that it was the best method at that time known, considering the uncertainty as to what were the elements of importance in handwriting. He predicted that an analytic scale of some sort would come into use when the elements constituting what is called "general merit" should have been determined. The Hillegas composition scale was constructed by a method similar to that used by Thorndike, *i. e.*, on the basis of a number of judgments as to the general merit of samples. No distinctions were made among the various forms of composition.

The Harvard-Newton composition scale was derived after a critical study of a comparatively small number of compositions of each of the four prose forms: exposition, description, narration, and argumentation. The specimens were taken from the seventh and eighth grades of the Newton schools and were carefully criticised and analyzed by the principals and the seventh and eighth grade teachers of English. Each sample which appears in the scale is accompanied by a critical evaluation and justification of its position, in relation to the sample just preceding and the sample just following it. Here the plan was to have from a few judges a very exhaustive study of a limited number of specimens, rather than the general estimate of a large number of judges on a great many samples. The method is intensive rather than extensive.

The handwriting scales of Freeman[1] and Gray[2] were derived by methods similar in general to those used in the composition scale just described. Both of these authors analyzed samples of handwriting, with the help of other persons; and pointed out certain qualities, such as slant, alignment, spacing of words and letters, etc., which were found to determine the excellence of handwriting. Freeman includes five such elements and Gray includes nine.

The Courtis tests in arithmetic, in their evolution from the measurement of general arithmetical ability to the measurement of specific arithmetical abilities, might be cited as further evidence of the development of tests and scales from the non-analytic to the analytic type. The two types, however, can be distinguished in the tables.

The recent developments promise to transform scales and tests from mere measuring devices into real supervisory aids. It is worth something to be able to say with approximate accuracy what the accomplishment of a given grade in handwriting is, as compared with a large number of similar grades, or how the handwriting of an individual pupil compares with the average of a large number of individuals of his grade. This is the most that the advocates of the non-analytic type of scale can expect to accomplish with it. A scale or test would be worth incalculably more if by means of it one could tell just wherein a sample of handwriting or other material is strong and wherein it is weak, and on the basis of this analysis point out just where the emphasis toward correction or improvement in any particular case should be put. Such is the goal, the reasonably attainable goal, toward which investigators in this field are striving.

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[1] *An Analytical Scale for Judging Handwriting*, Elementary School Journal, Vol. 15, pp. 378–386.

[2] *A Score Card for the Measurement of Handwriting*, Bulletin of the University of Texas, 1915, No. 37.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
*J. M. Rice[1]	Arithmetic	1895	Eight examples given to each grade (IV–VIII) inc. including 6000 pupils. Measurement of general arithmetical ability.	No standard of achievement established and no tests recommended as standards.
Stone[2]	Arithmetic	1908	Measurement of specific arithmetical abilities. Tests in addition, subtraction, multiplication, and division. Correlations between different arithmetical abilities determined. Conditions much better controlled than in Rice's tests in the same subject. 6000 papers scored. Samples scores and median scores of twenty-six school systems given.	Tests in the four fundamental arithmetical operations and in simple reasoning.
Courtis[3]	Arithmetic	1909 1912 1914	Tests in copying figures, in the four fundamental operations of arithmetic, and in arithmetical reasoning given to large numbers of pupils in early tests. Later, results modified or verified by submitting the tests to 33,000 pupils in the New York City schools. Stone tests first used (1909). Tentative tests and standards (1912). Latest standards (1914).	Tests and standard scores worked out for each grade on the basis of scores made by pupils in this investigation. Score which 30% equal or exceed taken as the standard.
Thorndike[4]	Drawing	1913	268 ratings of fifteen samples of drawing, made on a scale of 0–17. Samples then arranged on the scale in accordance with the theory that equally often noticed differences are equal.	Scale of fractional values of 14 steps, ranging from 0 to 17, and with sample accompanying each step.
Hillegas[5]	English Composition	1912	Seven thousand compositions by "young people" divided roughly into ten classes, representing as many grades of merit. 83 samples, covering the whole range, with some artificial samples to fill the gaps. Rated by a number of judges in degree of merit. Represented numerically and in simple relative rank. Combined judgments used in construction of scale. All forms of composition used indiscriminately in the scale.	A scale containing samples ranging in merit from 0 to 937.

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* The references for the studies listed here are found immediately following the tables, the number of each reference correponding to the number following the name of the investigator.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
Ballou[6]	English Composition	1913	Eighth grade compositions from the Newton schools used. Twenty-five samples of each form of composition (narrative, description, exposition, and argumentation) rated on % basis, with 40 and 90 as limits. All samples then ranked as to relative position. All samples showing extremes in rank and grade eliminated. Samples chosen for the scale which approximated grades 45, 55, 65, 75, 85, and 95 most closely and showed little variation in rankings. Each sample of each form of composition analyzed separately.	Six point scale, ranging from 40 to 90, each step in the scale including a sample of each of the four forms of prose composition.
Courtis[7]	English Composition	1915	Large number of pupils' compositions rated on the Hillegas scale.	Standard scores on the Hillegas scale for Grades IV–VIII.
Thorndike[8]	Handwriting	1910	One thousand samples of (IV to VIII) grade children's handwriting rated in general merit on a scale of fourteen equal steps, and this method checked by rating simply according to relative merit.	A scale consisting of fourteen equal steps.
Ayres[9]	Handwriting	1912	Measurement of a particular quality of handwriting, legibility. Large number of samples rated on the basis of the time required to read them.	Scale of 8 equal steps (20–90). Sample representing each step attached.
Houston[10]	Handwriting	1912	Specimens of handwriting given definite value and position on a scale, on the basis of size, form, smoothness, slant, spacing of letters, neatness or making over of letters or words, and spacing of words.	Scale of seven steps: 20–30, 40–50, 60–70, 75, 80, 85, and 90–95. Under each specimen are suggested its particular defects.
Starch[11]	Handwriting	1913	Samples of children's handwriting rated for their legibility, taking the time required to read an exposed section of a line, thus avoiding aid from the context.	Reached the conclusion that the so-called exposure method used here is the most reliable method known, of testing legibility.
Freeman[12]	Handwriting	1914	Five qualities of handwriting selected; uniformity of alignment, uniformity of slant, form of letters, spacing of letters, and spacing of words. Samples representing three degrees of excellence in each quality chosen. Values given to these samples in each quality 1, 3, and 5 except in the case of form of letters, in which case the values were 2, 4, and 6. The value of any sample by this scale is equal to the sum of its values in all of the five qualities.	A scale consisting of five charts, each chart containing three samples of handwriting, and representing three degrees of merit in one of the five qualities.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
Witham[13]	Handwriting	1915	Measurement of speed, legibility, and form, or beauty. All these combined by Weiss index method, giving each equal weight, gives general merit or rank of any sample.	Combination of former methods, no new scale devised.
C. Truman[14] Gray	Handwriting	1915	A list of the qualities which go to make up excellence in handwriting submitted to a number of judges and ranked according to their importance. The upper nine from this list again submitted to a new set of judges and ranked again in the same way. These rankings translated into percentage values on the basis of a total of one hundred.	A score card, on which are nine qualities, each with a definite value attached.
Freeman[15]	Handwriting	1915	Investigation of speed and quality of handwriting in grades II–VIII in cities of more than 30,000 population. Also, a questionnaire investigation of the opinion of business men as to the quality of handwriting necessary in business; quality being measured on the Ayres scale. Smoothing the curve representing the upper quartile of measurement, influenced by business men's opinions, gives standards.	Standard scores for each grade (II–VIII) in speed and quality, quality being measured on the Ayres scale and speed in letters per minute written.
Courtis[16]	Handwriting	1915	Investigation of the rate of writing an original story and rate of writing a reproduction of a story read. Standards based on rates of large numbers of pupils.	Standard rates for writing in each of the grades (IV–VIII) inc.
Rice[17]	Language	1903	Pupils tested as to structure of sentences and excellence of form in reproduction of a selection read aloud to them. Tests given in person by Rice to 8300 pupils.	Great amount of overlapping between the successive grades discovered. No scale given.
Thorndike[18]	Reading	1914	Eleven hundred pupils tested for comprehension. Twenty-five hundred tested for visual vocabulary. These tests given in grades V–VIII. Nine lists of words prepared. Pupil asked to mark each one in a certain way to show that he recognized it. To test understanding, passages prepared, ranging in length from a short sentence to a paragraph of ordinary length, and covering similar range in difficulty of ideas contained. Ranking of pupil then is on basis of words recognized and ideas correctly reproduced.	Tentative scale presented, subject to further testing and revision.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
W. S. Gray[19]	Oral Reading	1914	A series of ten paragraphs of increasing difficulty, due to the increasingly long and difficult words. Series tested on three groups of pupils in three schools with rather uniform results.	A provisional scale for measuring ability to pronounce English sentences.
F. J. Kelly[20]	Silent Reading	1915	Sixteen short passages framed to test the pupil's ability in silent reading. These given to pupils with directions to make certain marks or underscore particular words if certain things were true from the passages read. A value, determined by the time required to read, given to each passage. No passage counted unless it was read correctly. Reading ability represented by the scores made in five minutes. Three sets of tests, differing somewhat in difficulty, given to three classes of pupils: respectively grades III–V inc., VI-VIII inc., and high school classes. Fifteen hundred pupils tested in (III–VII); somewhat smaller numbers in the higher classes. Standards for each grade worked out on basis of these scores.	Tests for silent reading and standard scores for each of the grades III–XII.
Courtis[21]	Reading	1915	Rate of reading the completion of interesting story measured, and words per minute calculated; pupil being able to reproduce 50% of the ideas in a 400 word passage.	Standard scores in words read per minute for grades IV–VIII.
Starch[22]	Reading	1915	Speed of reading and comprehension measured. Number of words read in thirty seconds represents speed. Number of words correctly expressing ideas contained in the passage represents comprehension. Curve for achievement by grades secured by smoothing the curve which represents the medians of the scores obtained from an application of these tests to 3511 pupils.	Standard scores for grades I–VIII in comprehension given, based on the median scores of pupils tested. Tests given also.
Rice[23]	Spelling	1897	Arbitrarily selected words dictated both as single words and in sentences. Also, tests by original composition. Study unscientific; 33,000 pupils tested under various conditions.	List of 150–200 words suggested. No definite scale.
Cornman[24]	Spelling	1902	Used Rice's column test, vertical list of words, words in sentences, words in a composition, and words written spontaneously for fifteen minutes.	Four column tests and sentence tests with median scores for grades III–VIII.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
Wallin[25]	Spelling	1911	Two methods used: a composition test, in which were test words copied by the pupils; and a column test, in which occurred one column of forty words for each grade. Grades IV–VIII tested.	Column lists of words offered, but no standard scores affixed.
Buckingham[26]	Spelling	1913	5000 words taken from 5 popular spelling books. 270 words selected from this list and submitted to 8791 pupils in grades III–VIII and to 11 grades in New York City. 100 words showing most consistent rise in correct spelling by grades, again submitted to large number of pupil and from these, 25-word lists selected, ranging from easy to difficult by approximately equal steps.	Tests consisting of 25-word lists of gradually increasing difficulty.
Ayres[27]	Spelling	1913	Selections made from words spelled by a large number of pupils. Selection of a number of words for each grade, such that 70% of the pupils of any grade could spell all of the words of that grade correctly.	Tests consisting of ten words for each of the grades.
Starch[28]	Spelling	1914	First defined non-technical word on each page of Webster's New International Dictionary. 600 of the more common of these selected. These divided by purely random selection into six 100-word lists; each list of approximately equal difficulty. These lists given to 2500 school children, and from the smoothed curves representing these scores, standards of achievement derived.	Six column tests and standard scores for grades II–VIII.
Cook[29] & O'Shea	Spelling	1914	A large mass and variety of correspondence examined, and words selected for the lists on the basis of the frequency of their occurrence. Words arranged in three lists in the order of their frequency and hence, presumably, the order of their importance.	Three lists of words: (1st list, 272; 2nd list, 542; 3rd list, 344)
Ayres[30]	Spelling	1915	The one thousand most commonly used words in all sorts of writing selected on the basis of their frequencies of occurrence in four comprehensive lists worked out by earlier investigators. These thousand words given as tests to consecutive grades in eighty-four cities (fifty twenty-word lists). Difficulty of each word for each grade determined on basis of scores of seventy thousand pupils in grades II–VIII.	Twenty-six columns of words (A–Z) with the average percentage of correct spellings to be expected of each grade indicated.

Name of Investigator	Subject Investigated	Date of Study	General Method Employed	Results
R. G. Jones[31]	Vocabulary	1915	Words occurring in ten primers as many as ten times, divided into two lists; phonetic words given value corresponding to the number of times it and any other members of the same word family occurred. Sight words given only the value corresponding to their own occurrence. Thus, a particular value corresponding to the particular word, deducted from the total possible score (the value of the whole list) for each word not recognized.	List of eighty-seven words, with a particular value attached to each.
Haggerty[32]	Arithmetic	1915	Courtis tests given to approximately nine thousand school children in twenty Indiana cities. Indiana Standard of speed and accuracy ("dependability") proposed on the basis of the medians of these scores for each of the four fundamental arithmetical operations.	Indiana Standard for achievement in Courtis tests.

[1] Educational Research, A Test in Arithmetic, The Forum, vol. xxxiv, pp. 231–297.

[2] Arithmetical Abilities and Some Factors Determining Them, Columbia Contributions to Education, Teachers College Series, No. 19, 1908.

[3] Measurement of Growth and Efficiency in Arithmetic, Elementary School Teacher, vol. 10, pp. 59–74 & 179–199; vol. 11, pp. 171–185, 360–370, 528–539; Standard Scores in Arithmetic, Elementary School Teacher, vol. 12, pp. 127–237.

[4] The Measurement of Achievement in Drawing, Teachers College Record, March, 1913.

[5] The Measurement of Quality in English Composition, Teachers College Record, September, 1912.

[6] Scales for The Measurement of English Composition, Harvard-Newton Bulletin, No. 11, Harvard University Press, Cambridge, Mass.

[7] Standards in Rates of Reading, 14th Yearbook of the National Society for the Study of Education, pp. 44–59.

[8] Handwriting, Teachers College Record, March, 1910.

[9] A Scale for the Quality of Handwriting of School Children, Bulletin of the Division of Education of the Russell Sage Foundation, 1912, No. 113.

[10] Manual of Penmanship and Guide to Rating, New Haven, 1912.

[11] The Measurement of Handwriting, Journal of Educational Psychology, October, 1913.

[12] An Analytical Scale for Judging Handwriting, Elementary School Journal, vol. 15, pp. 378–386.

[13] All the Elements of Handwriting Measured, JOURNAL OF EDUCATIONAL ADMINISTRATION AND SUPERVISION, May, 1915. Method of Measuring Handwriting, School Board Journal, May, 1914.

[14] Score Card for the Measurement of Handwriting, Bulletin of the University of Texas, 1915, No. 37.

[15] Handwriting, 14th Yearbook of the National Society of the Study of Education, pp. 61–73.

[16] Standards in Rates of Reading, 14th Yearbook of the National Society for the Study of Education, pp. 44–59.

[17] Educational Research, The Results of a Test in Language, The Forum, vol. 35, pp. 269–

[18] The Measurement of Ability in Reading, Teachers College Record, May, 1914.

[19] A Provisional Scale for Measuring Ability to Pronounce English Sentences, Teachers College Record, May, 1914.

[20] The Kansas Silent Reading Tests, Bureau of Educational Measurements and Standards, State Normal School, Emporia, Kansas.

[21] Standards in Rates of Reading, 14th Yearbook of the National Society for the Study of Education, pp. 44–59.

[22] The Measurement of Efficiency in Reading, Journal of Educational Psychology, vol. 6, p. 1–24.

[23] The Futility of the Spelling Grind, The Forum, vol. xxiii, pp. 163–172 and 409–419, Scientific Management in Education, N. Y., 1913, Hinds, Noble, and Eldridge.

[24] Spelling in the Elementary School, Boston, 1902, Ginn and Co.

[25] Spelling Efficiency, Baltimore, 1911, Warwick and York.

[26] Spelling Ability, Its Measure and Distribution, Teachers College Contributions to Education, No. 59, 1913.

[27] The Spelling Vocabularies of Personal and Business Letters, Monograph of the Division of Education of the Russell Sage Foundation, New York, 1913.

[28] The Measurement of Efficiency in Spelling, Journal of Educational Psychology, vol. 6, pp. 167–186.

[29] The Child and His Spelling, Indianapolis, 1914, Bobbs-Merrill Co.

[30] A Measuring Scale for Ability in Spelling, Division of Education of the Russell Sage Foundation, New York, 1915.

[31] Reading, 14th Yearbook of the National Society for the Study of Education, pp. 37–44.

[32] Indiana University Bulletin, No. 11, October, 1915.

Improvement in Handwriting

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The Problem

THE problem of the present investigation was to determine the change, either improvement or deterioration, that occurred in the speed and in the quality of the handwriting of pupils of elementary and grammar grades during six months of the regular school year. Boys and girls were considered separately both for each grade and for each age from 7 to 15 years. Answers to the following questions were sought:

In which grades is there the most noticeable change, either for the better or the worse, in quality?

In which grades is gain or loss in speed most noticeable?

Are there any differences in boys and girls in the matter of changes in speed and quality?

Are the observable changes different for different ages?

The Material

About the first of November, 1914, the writing supervisor of the Iowa City public schools was asked to have all the children in all the grades write the sentence, "Mary had a little lamb," for exactly two minutes. This sentence was first written on the blackboard, the children read it over together, and it was then erased. Instructions were given to insure that the pupils started writing and stopped at the same time. They were asked to write at their usual speed and as well as they could. Their names, ages, and grades were written on the papers before the test was begun.

This same test was repeated the following May after approximately seven months of ordinary classwork. There were 600 papers in the first test and 769 in the second. In practically every age and grade group there were more pupils in the second test than in the first. We have no explanation of this difference other than more pupils were in school on the day of the second test. It is possible also that some grade groups in some schools did not furnish papers the first time. This was not checked up as it should have been, and while it may account for a part of the difference, we believe that the difference in the attendance for the two days was the chief factor in the difference in the numbers taking the test.

THE METHOD OF GRADING

(a) *Speed.* One half of the number of letters written, *i. e.*, the number of letters in one minute, was taken as the score in speed and this number was written on the face of the papers.

(b) *Quality.* The Ayres Scale was used as the standard in the measurement of quality. Each sample was first compared with the lowest quality on the scale and then moved to the right until a grade on the scale was reached which was regarded as distinctly better than the sample. The grade of the last preceding sample on the scale was then written on the back of sample being examined. After all the samples of the set were thus graded by the ascending scale, they were graded the second time by the descending method. The sample was compared with the highest quality on the scale and then moved down until a quality poorer than the sample in hand was reached. The grade of the last preceding quality on the scale was then recorded on the back of the sample in hand. The final grade of the sample was taken as the point half way between the two Ayres grades and this was written on the face of the sample.

TABULATING

(a) The totals for all grades were then gathered into a grade-speed distribution and then into a grade-quality distribution for each of the tests.

(b) The medians, the 25% and 75% quartiles, and the ranges for each test both as to speed and as to quality were recorded in tables by grades.

(d) The papers were then distributed by ages for each test and similar tables for speed and quality were constructed for each age.

GRAPHS

Some of the more significant findings are shown graphically in connection with this report. In the graphs, as well as in the tables, the groups in the first and second tests are compared directly. This means that the II B of the first test is compared with the II A of the second test. In the case of the age comparisons, however, we did not attempt to note the extent to which the pupils reported different or older ages in the second test from those reported by them in the first. Thus, the group of seven year olds in the first test is not exactly the same as the seven year old group in the second test. The chances that the seven year olds in the Fall would appear in the Spring as seven or eight seemed about even, therefore we compared the sevens of the Fall with those reporting themselves as seven in the Spring.

CONCLUSIONS

We hesitate to draw any *conclusions* from this study. We shall rather point out some of the differences which appear between the *sexes*, *ages* and *grades* in the two tests.

1. In the third and fourth grades, both boys and girls, there is loss in speed in the second test. The grades preceding and following show more or less gain in speed (with some slight exceptions). The boys gain the most in these lower and upper grades. The girls write slightly faster than the boys in both the first and the second tests.
2. As to quality, the girls write decidedly better than the boys in all grades but the lower. There is little change in the quality of the boys' writing through the grades in either the first or second test. The girls show decided improvement from grade to grade. The most noticeable improvement between the two tests was shown by both boys and girls of the VI B–VI A group. Practically all the grade groups, except the lowest show decided improvement in quality in the second test.
3. As to age, both sexes show a rather distinct correlation between age and quality and age and speed. The improvement between the two tests is more evident in *quality* than in *speed.*

INDIVIDUAL IMPROVEMENT

As it was not possible in the limits of time at the disposal of the investigator to compare all the records of the first test with those of the second by individuals, a few records were selected at random from two grades, 37 from grade VII B and 32 from grade IV B. The records of this group of 69 pupils made in the two tests were compared to determine the extent of improvement in both speed and in quality. While nearly all of the pairs of records show improvement in either speed or quality, only 15% show improvement in both. In order to eliminate to some extent the chance individual variability which is bound to occur, all those who did not show an improvement of five points in quality or of five letters in speed, were considered as having made no improvement. The following table summarizes the findings:

		Grade VII (37)		Grade IV (32)			
Improvement in quality	Girls	9		10		19	
	Boys	8		8		16	
	Total	17	46%	18	56%	35	50%
Improvement in both speed and quality	Girls	3		3		6	
	Boys	3		2		5	
	Total	6	15%	5	16%	11	16%
Improvement in speed only	Girls	8		4		12	
	Boys	9		4		13	
	Total	17	46%	8	25%	25	36%
No improvement	Girls	5		7		12	
	Boys	4		4		8	
	Total	9	24%	11	34%	20	29%

In a general way this phase of the inquiry confirms the study of the improvement by grades. There is little if any difference between the sexes in the number showing improvement.

Fifty per cent. of the whole group show improvement in quality, but in this respect proportionally more in the Fourth grade than in the Seventh grade show improvement.

Thirty-six per cent. of the whole group show improvement in speed, the Seventh grade, however, has the larger number of these.

Twenty-five per cent. show no decided improvement. Of these, more are found in the Fourth than in the Seventh grade.

GRADE SPEED SUMMARY*

Grades	*First Test* Medians	No. Cases
IIB		
G.	34	12
B.	27.5	12
IIA		
G.	45	18
B.	37.5	15
IIIB		
G.	49	20
B.	39	18
IIIA		
G.	60	25
B.	48	15
IVB		
G.	62	19
B.	60	23
IVA		
G.	70	20
B.	63	23
VB		
G.	64	23
B.	55	21
VA		
G.	60	26
B.	64	20
VIB		
G.	74	29
B.	64	27
VIA		
G.	55	21
B.	63	22
VIIB		
G.	82	29
B.	91	23
VIIA		
G.	70	23
B.	73	30
VIIIB		
G.	61.5	38
B.	64	28
VIIIA		
G.	94	13
B.	90	7

Grades	*Second Test* Medians	No. Cases
IIB		
G.	45	38
B.	45	30
IIA		
G.	48	24
B.	48	16
IIIB		
G.	55	33
B.	50	33
IIIA		
G.	57	25
B.	53	34
IVB		
G.	59	34
B.	43	23
IVA		
G.	59	28
B.	58	32
VB		
G.	66.5	37
B.	57	34
VA		
G.	62.5	21
B.	62	34
VIB		
G.	69	25
B.	70	25
VIA		
G.	69	30
B.	81.5	30
VIIB		
G.	72	25
B.	79	21
VIIA		
G.	84	26
B.	90	31
VIIIB		
G.	81.5	16
B.	90	22
VIIIA		
G.	73	42
B.		

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* G = Girls; B = Boys.

GRADE FORM SUMMARY

Grades	*First Test* Medians	No. Cases
IIB		
G.	39	12
B.	42	12
IIA		
G.	32.5	18
B.	35	15
IIIB		
G.	34	20
B.	34	18
IIIA		
G.	34	25
B.	34	15
IVB		
G.	39	19
B.	34	23
IVA		
G.	42	20
B.	39	23
VB		
G.	48	23
B.	34	21
VA		
G.	44	26
B.	37	20
VIB		
G.	52	29
B.	39	27
VIA		
G.	52	21
B.	38	22
VIIB		
G.	56	29
B.	39	23
VIIA		
G.	54	23
B.	36.5	30
VIIIB		
G.	55	38
B.	43	28
VIIIA		
G.	54	13
B.	50	7

Grades	*Second Test* Medians	No. Cases
IIB		
G.	33	38
B.	37	30
IIA		
G.	38	24
B.	37	16
IIIB		
G.	37	33
B.	33	33
IIIA		
G.	41.5	25
B.	34	34
IVB		
G.	47.5	34
B.	45	23
IVA		
G.	46.5	28
B.	42	32
VB		
G.	49	37
B.	47	34
VA		
G.	52	21
B.	47.5	34
VIB		
G.	62.5	25
B.	52	25
VIA		
G.	52	30
B.	44	30
VIIB		
G.	58	25
B.	52	21
VIIA		
G.	62	26
B.	51	31
VIIIB		
G.	64	16
B.	48	22
VIIIA		
G.	66.5	42
B.		

AGE SPEED SUMMARY

Grades	*First Test* Medians	No. Cases	Grades	*Second Test* Medians	No. Cases
7G.	37	19	7G.	49	30
B.	29	13	B.	46	26
8G.	49	37	8G.	53	56
B.	44	27	B.	52	48
9G.	59	30	9G.	52	49
B.	49	41	B.	52	59
10G.	66	55	10G.	59	62
B.	61	44	B.	58	50
11G.	63	46	11G.	72	43
B.	53	34	B.	69	45
12G.	62.5	47	12G.	73	52
B.	52	44	B.	71.5	49
13G.	63	48	13G.	74	54
B.	72	45	B.	82	51
14G.	69	24	14G.	77	29
B.	77	27	B.	84	19
15G.	77	11	15G.	77	11
B.	67	3	B.	67	7

AGE FORM SUMMARY

Grades	*First Test* Medians	No. Cases	Grades	*Second Test* Medians	No. Cases
7G.	33	17	7G.	32	30
B.	39	14	B.	37	26
8G.	33	37	8G.	39	56
B.	32.5	26	B.	35.5	48
9G.	36.5	29	9G.	43	49
B.	37	38	B.	35	59
10G.	44	55	10G.	47	62
B.	38	44	B.	45	50
11G.	49	46	11G.	54	43
B.	36.5	32	B.	46	45
12G.	53	47	12G.	54	52
B.	38	44	B.	49	49
13G.	53	42	13G.	62	54
B.	39	40	B.	49	51
14G.	56	24	14G.	62	29
B.	42.5	28	B.	44	19
15G.	55	6	15G.	67	11
B.	47	8	B.	52	7

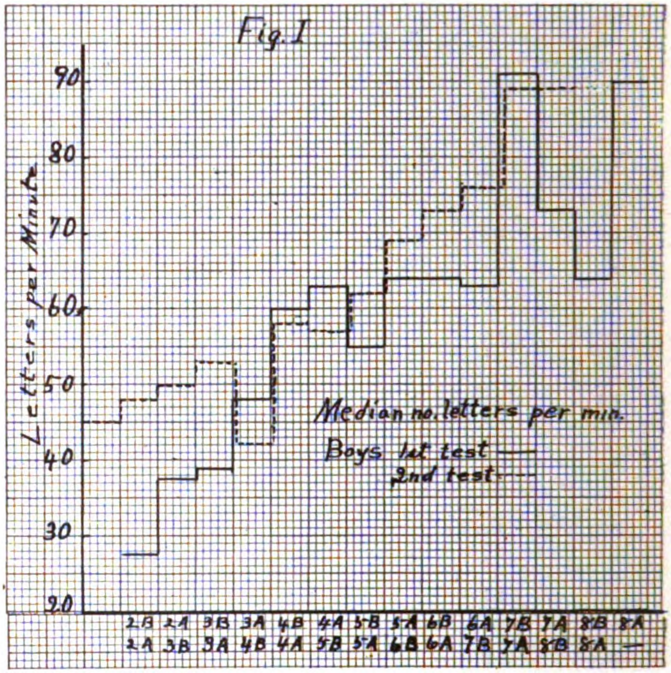
Fig. I
Letters per Minute
90
80
70
60
50
40
30
20
2B 2A 3B 3A 4B 4A 5B 5A 6B 6A 7B 7A 8B 8A
2A 3B 3A 4B 4A 5B 5A 6B 6A 7B 7A 8B 8A —
Median no. letters per min.
Boys 1st test ——
2nd test - - - -

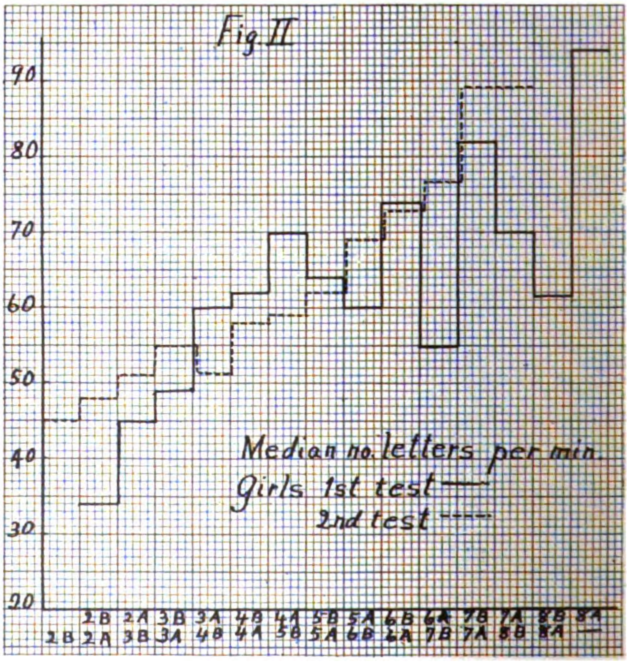
Fig II
90
80
70
60
50
40
30
20
2B 2A 3B 3A 4B 4A 5B 5A 6B 6A 7B 7A 8B 8A
2B 2A 3B 3A 4B 4A 5B 5A 6B 6A 7B 7A 8B 8A —
Median no. letters per min.
Girls 1st test ——
2nd test - - - -

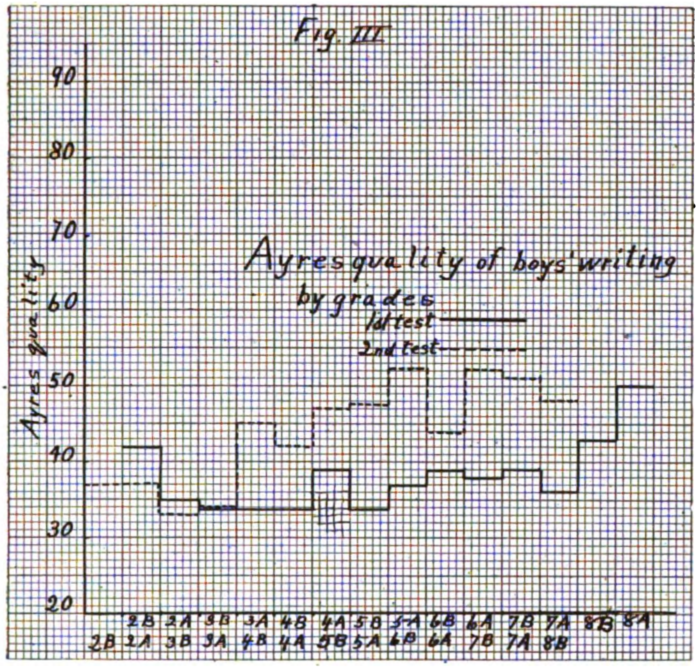

Fig. III

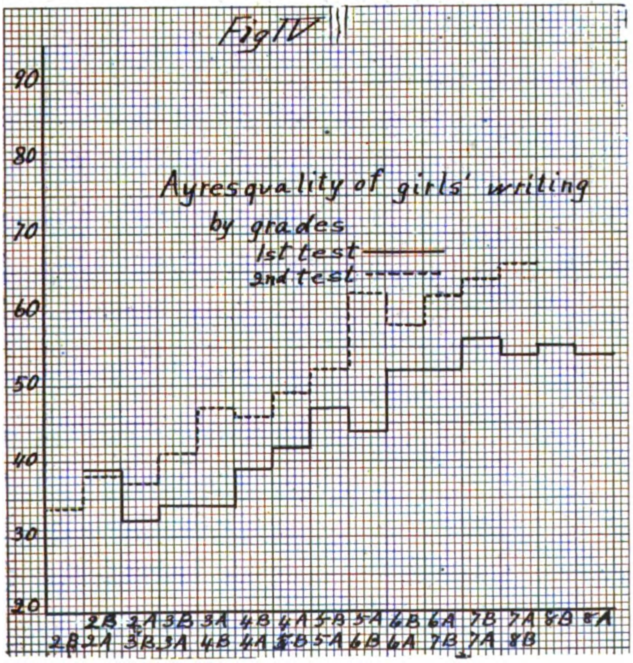

Fig IV

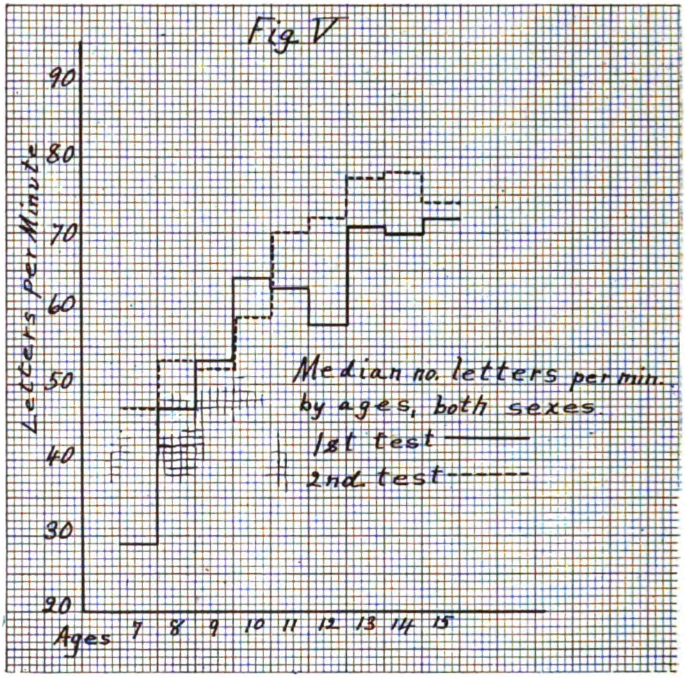
Fig V
Letters per Minute
90
80
70
60
50
40
30
20
Median no. letters per min. by ages, both sexes.
1st test
2nd test
Ages
7
8
9
10
11
12
13
14
15

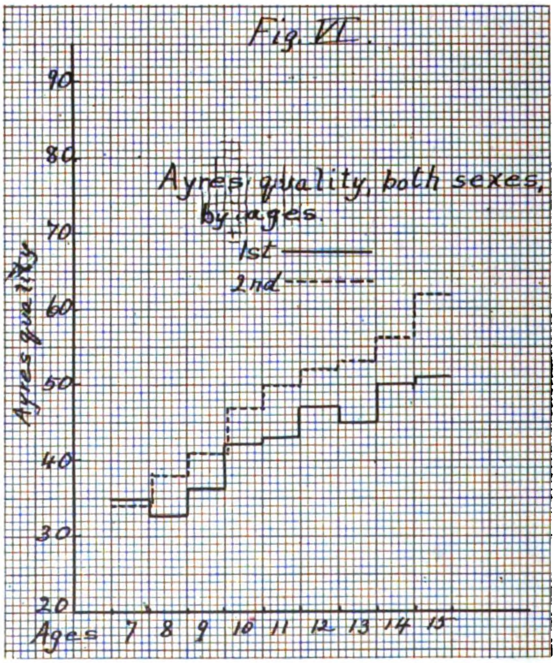
Fig. VI.
Ayres quality, both sexes, by ages.
1st
2nd
Ayres quality
90
80
70
60
50
40
30
20
Ages
7
8
9
10
11
12
13
14
15

Impressions of the Gary School System

F. H. Swift

University of Minnesota

FIVE years ago it was the Montessori system, today it is the Gary system which is attracting the attention of the school world in the United States. The Montessori system, although not widely adopted, has undoubtedly exerted considerable influence upon school practice. The Gary system will do likewise. Some cities will attempt to Garyize their schools; others will be content with borrowing certain Gary elements. The Montessori system was of special interest to kindergarten and elementary teachers; the Gary system is of especial interest to school superintendents and members of school boards, officers concerned primarily with the organization and financing of schools. The claims of the Gary system may be summed up in a single phrase, "economy and efficiency through superior organization." Somewhat more in detail, the fundamental claims made by Superintendent Wirt and which appear in print at the top of some of his circulars are that by the Gary system children gain twenty per cent. more time; instruction costs ten per cent. less and building and equipment cost forty per cent. less than under the ordinary system. The full significance of the saving secured by reducing the cost of instruction ten per cent. is evident only when we consider that instruction is the largest single item of expense in every school system. More time is gained for the children by substituting a seven and one-half or eight and one-fourth hour school day for the ordinary five hour school day. It is claimed that the cost of building and equipment is decreased by housing under one roof all grades from the kindergarten through the high school and also by making each school seat and desk serve for two children instead of one. This is done by dividing each class into two sections, "A" and "B" and by sending section "B" into shop, laboratory or playground while section "A" is occupying recitation or study room and vice versa. Instruction is cheapened by substituting departmental work and dispensing with supervisors of special subjects. Such supervisors in many systems draw large salaries, do little or no teaching and spend the major part of their time in working out courses of study, visiting and inspecting classes. The Gary system maintains that in place of spending funds on supervisors, teachers of a high grade should be employed and if such teachers are employed, supervision is unnecessary. The Gary system pins its faith to the individual teacher and excludes the supervisor.

The attention which the Gary system has attracted throughout the United States during the past five years, the movement to incorporate it in many systems at the present time including New York City would be a sufficient reason for a serious consideration of its claims. Nearly all that has thus far appeared in print concerning the Gary schools has been commendatory in the strongest terms. This is all the more significant in view of the fact that among those who have written upon the Gary system have been prominent educators and students of education. The school public is awaiting with interest a careful survey, now under way, and the results of which will soon be made available. Nevertheless it may not be out of place to present at the present time a number of impressions gained during a few days sojourn in Gary, bearing in mind that these judgments are offered merely as impressions and are subject in a number of cases to modification should future data justify such modification. It should be noted, however, that although it may take a year or even longer to determine certain results of a school system, there are many conditions such as cleanliness, sanitary conditions, discipline, etc., which are readily apparent.

In judging the Gary system both with respect to the local situation and with respect to the feasibility of instituting it elsewhere, at least three conditions peculiar to Gary must be borne in mind. These conditions in many cases explain to a certain extent the unsatisfactoriness of certain features of the system as found in Gary and show that it is exceedingly difficult to pass final judgment upon it at the present time:

(1) The population of Gary is, to a large extent, a transient one. The prosperity or hard times which mark the life of an industrial community tend to cause frequent changes in population. To judge the soundness of the principles underlying the Gary system by the attainment of pupils now in school would be, to a certain extent, unfair.

(2) The second condition is the rapid increase in population which makes it difficult to supply school facilities at the rate needed.

(3) The schools are sadly lacking in financial support. The school tax is based upon a valuation estimated on an average of eighteen months previous to the time when the tax is collected; meanwhile the multiplication of industrial plants has brought in hundreds of children who must be cared for. The schools are consequently over-crowded and the number of teachers insufficient.

With these special conditions in mind, we may now turn to a more direct consideration of the Gary system and the validity of its claims. The final result of a brief but careful inspection of the Gary school system can hardly fail to lead an unprejudiced observer to the conviction that the Gary system can neither be accepted nor condemned *in toto.* At least eleven characteristics of the system deserve commendation. Our attention will be given to these first.

(1) One of the professed aims of the Gary system is to provide within the school itself abundant opportunity for work and for play as well as for study. The Gary system sets aside two hours for play and for work in some form for nearly every child. Few school systems have made such a generous provision for play. The Emerson school has a playground of three acres for about two thousand pupils. These playgrounds are well equipped. Both schools have excellent gymnasiums and separate swimming pools for boys and girls. The Gary system is in the first rank from the standpoint of the provision it makes for playgrounds.

(2) The course of study has been enriched by introducing into it many activities which are designed to bring the child into contact with vital social interests and to afford him some direct preparation for earning a livelihood.

(3) Cultural studies are not neglected. Such studies as music, art and the languages are given a prominent place in the school program. Music and art form a part of the education of every child. Every effort is made to acquaint the students not only with current literature but with the English classics as well. The works of the English classical writers are included in the course of study and their volumes occupy a conspicuous place in the library where definite instruction in the use of books is given to the chil-

dren by trained librarians. That the traditional cultural studies are not neglected is further evident from the fact that the number of students studying Latin in Gary exceeds the number studying French and German. This, of course, in the minds of many may be a questionable merit.

(4) The course is not made subservient to local industrial interests. The question has frequently been raised by those who have not visited Gary as to whether the schools were not over vocationalized and also whether the industrial trend of the schools is not dominated by local industries for the purpose of supplying Gary shops with workers. Nothing observed in the schools would justify any such conclusion. Moreover, teachers in charge of non-vocational studies flatly denied this implication. On the contrary, they stated that no effort is made to teach the trades and occupations carried on in local industrial plants. They explained this by saying that Superintendent Wirt maintains that the chances of those who are now children remaining in Gary after they have reached adult years is so small that such an aim would be unwarrantable.

(5) The Gary program is flexible rather than uniform and rigid. Instead of attempting to establish the same program for all schools throughout the city, the program of each school is adapted, so far as possible, to the needs of the district which it serves. More than this, the program is arranged in such a manner that boys and girls who desire to work outside of school hours are given an opportunity to do so.

(6) The discipline in the Gary schools is based upon principles thoroughly in accord with the best understanding of child nature. Freedom and independent action are encouraged. Pupils leave their seats as necessity dictates, not as the arbitrary decision of the teacher permits. They move freely about the halls. The success with which this type of discipline is being carried out in Gary is, however, open to serious question but this aspect of it is reserved for consideration in a subsequent paragraph.

(7) Teachers are encouraged to show spontaneity and initiative in their work. This is done (1) by doing away with supervision; (2) by excluding any rigid system of controlling the manner in which periods of instruction are to be used; (3) by definitely encouraging the individual teacher to experiment with original methods of teaching.

(8) More advanced or older students render assistance in laboratory and shop. As the result, pupils are taught to make some return for what they receive from the community. Further, a sense of responsibility is developed. Moreover, by this means, younger students are thrown gradually into types of work which will be open to them later on if they choose to enter them.

(9) The policy of gradually familiarizing students of lower grades with the work of the upper grades is a commendable feature of the system. In addition to the method presented in the preceding paragraph, a number of others are employed. In the auditorium during assembly periods, upper classes present types of their work for the benefit of the lower classes. Exhibits of various sorts are displayed in the halls. Among these may be mentioned historical, geographic and physiographic maps, charts and models, photographs of the occupations carried on in various shops and laboratories.

(10) The Gary schools, so far as possible, are made to serve the entire community. "All the schools all the time for all the people" is a Gary slogan. Some of the means employed to realize this aim are (1) extension classes for adults; (2) a four semester plan; (3) keeping the schools open evenings and on Saturday for children who are behind in their studies or who are especially interested in a particular type of work.

(11) The teaching force connected with the Gary schools has an attitude toward their work and toward their pupils that impresses one as being unusually sympathetic and co-operative. The teachers with whom I talked seemed to be thoroughly interested in the children under their instruction and in the system and to believe in the sincerity which animates the plan. None with whom I talked made any complaint regarding the long hours or being over-worked. One stated definitely that Superintendent Wirt is opposed to teachers working after school hours and over against the long school day she set the fact that most teachers, when they left the school house, left their school duties behind them.* From this brief survey of the merits of the Gary system, let us turn to the other side.

The Gary system points with pride to the fact that it cuts the cost of instruction by doing away with supervisors. Supervisors are regarded as an expensive superfluity, yet on every hand in the Gary schools are conditions which would not be tolerated elsewhere and which adequate supervision would remedy at once. The individual teacher always tends to become absorbed in the subject he is teaching and consequently oblivious to physical conditions. Moreover it may seriously be doubted whether there is any system in the United States which is prepared to pay the salaries necessary to secure a body of teachers of such quality as to need little or no supervision. In every system will be found a small number of teachers who perhaps need no supervision, a considerable number who need little supervision, a large number who require much supervision. The salaries which Gary is paying at the present time will be discussed later. It may not be out of place here to note in passing that they are not such as to warrant any belief that the quality of teachers secured will be such as to make possible doing away with a large amount of supervision without disastrous results.

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* This should be compared with statement on p. 11. "Practically every teacher in the system teaches night school not from choice but from necessity."

The first evidence of the need of supervision which I observed in the Gary schools was dirt. The fact that Gary is an industrial and therefore a smoke-ridden city might be some explanation for a degree of griminess in classrooms and laboratories but it can hardly be offered as an excuse for the total general lack of tidiness which began in the large outer office of the superintendent where scraps of paper littered the floor and extended to the toilets in the basement. A state inspector of schools, from another state, remarked, as we passed out of one of the rooms, that the Gary schools—unless they cleaned up—would be dropped from the approved state list of schools in his state.

Another crying evidence of the need of supervision is the almost universal indifference to proper light conditions and the sinful injury being done to the children's eyes in not one but in many rooms. In the Emerson school, an English class sat in the front part of a science room. It was a study period. The portion of the room which the class occupied was surrounded by three solid walls. Conditions were made worse by cross lights caused by a certain amount of daylight filtering through from windows at the back of the room. Every child in the class appeared to be straining his eyes. Several of them held their books high above their heads in an endeavor to bring their texts closer to the artificial lights. Even worse conditions existed in a room in

Jefferson school where moving pictures were being shown. As a member of a committee investigating moving picture houses, I have had the opportunity of seeing a great variety of moving picture screens. The moving pictures on the screen in the Jefferson School were so dim as to be almost indiscernible. In addition to this, there was a continuous succession of violent flashes. It is difficult to understand how the children could endure looking at the screen at all. Those in charge of the exercise appeared oblivious to everything except the story they were presenting. At the Froebel school, similar evils were apparent and a similar indifference to the pupils' eyes. In one room we visited the teacher had placed his portable blackboard in a corner where there was almost no light. The small group of boys to whom he was describing the drawing had evident difficulty in seeing the lines. Nevertheless the blackboard remained in this, the darkest corner of the room although there was plenty of space elsewhere in the room where the blackboard could have been placed and where the light would have fallen upon it.

One of the most important means by which Gary attempts to save money is by making the same seat and desk serve two different children by the plan described in the opening paragraph of this article. The dangers of such a policy are great, especially in overcrowded communities. Sooner or later, there is bound to come a time as the result of overcrowding when the pupils of one grade will be placed in seats purchased for another. Gary has not escaped this evil. We found one class of high school students, seniors we were informed, occupying grade school seats. They sat with their knees hunched up towards their chins and their bodies twisted. At the present time we are endeavoring in our schools to adjust both the seat and desk as accurately as possible to the physical measurements of the individual child. The Gary platoon system makes such an attempt absolutely impossible unless the seat and desk are adjusted during the school day, a thing which is not likely to be done. Moreover, in Gary we found few adjustable seats.

One of the outstanding features of the Gary system and one which it emphasizes are the auditorium exercises. These exercises are in many cases, no doubt, beneficial but the advantages can not be attributed to the policy *per se*. The advantages every time will depend upon the character of the exercise and the character of the exercises cannot be guaranteed without careful supervision. Left to the judgment of the individual teacher such exercises as one of those we attended in the Froebel School will be frequent. The temperature in the auditorium when we entered it was probably 80 degrees. The children were restless, inattentive and gazing around. One of the exercises consisted of a lecture on the mechanics of stoves given by one of the shop instructors. It was given in language suited to a university class. The room was filled with children of a wide range of grades and ages. Needless to say, the lecturer received little attention from his audience. Not only were the majority of children almost entirely inattentive, but there was so much talking in an undertone that only the pupils in the front part of the room could hear what the lecturer was saying. One of the supposed benefits of these exercises is that children are taught how to conduct themselves in such assemblies.

The amount of time allowed for play in the Gary system commends it to all who believe that the physical nature of the child should receive first consideration. However, if children need two hours of play during an eight-hour school day, the question at once arises whether these two hours might not better be divided into three 40 minute periods or four 30 minute periods rather than into two periods of an hour each. Moreover, in order to meet the desire of certain students to work outside of school or to attend classes for religious instruction, both of the two much lauded play periods have been placed at noon in some schools. In other instances one play period comes at the beginning and one at the end of the day's session. The result is that many children have no play period during school hours.

The success with which the principles of liberty and freedom are being applied to discipline in the Gary schools both within and without the classroom is doubtful. The conduct in the corridors of the older pupils who are supposed to be upon a basis of self control in many instances was loud and vulgar. We passed girls jouncing each other around in the halls and talking loudly. In a word, in the absence of traditional discipline, roughhouse manners prevailed. In many classrooms the instruction was good and the pupils attentive; in many others, the pupils gave little or no attention to the lesson and the teachers had to make frequent appeals to them for attention and attention, when given, was given with the air of conscious condescension. In one class the teacher threatened to give up the lesson altogether unless the pupils stopped lashing each other's faces with the pussywillows which were supposed to be the subject of this lesson.

Any system which claims to provide education at a reduced cost while at the same time enriching and socializing the course of study is bound to receive a public hearing. Any system, however, which bases its claims to consideration upon the basis of cutting down the cost of equipment and of instruction may well be viewed with suspicion at the present time. Contrary to opinion, widely current outside of Gary, the salaries of the teachers are lamentably low. In one of the offices were tables and charts giving data with reference to the teachers' salaries. According to these charts the median of living expenses of Gary teachers is $1046.50. The median of total earnings from teaching, including outside lessons and night school work, is $881.04. We were informed that practically every teacher in the system teaches night school not from choice but from necessity, as the contract salary does not meet the living expenses. The median contract salary of 134 teachers is $796.50. A large number of teachers receive salaries ranging from $500 to $600 per year. Of these 134 teachers, only 35 per cent. do not contribute toward the support of others. Of the 65 per cent. who do contribute to the support of others, 44 per cent. are responsible for such support.*

From our survey of the merits and defects of the Gary schools, we may now turn to a few concluding impressions. A glance at the eleven features commended in the earlier paragraphs will reveal the fact that none of them are features peculiar to Gary and also that they are not the features upon which Gary bases her claims for consideration. Defects which in other systems might be passed over somewhat leniently cannot be overlooked in the Gary system because it is being presented to the school public as a model and because many systems and superintendents are approaching it from this standpoint. Such a claim justifies a careful scrutiny of every practice. Judged by school conditions observed in Gary at the time of my visit in the spring of 1916 the Gary system is an irrefutable argument against its own policies. It is a monument to the need of supervision, the evils arising from the lack of the same and the folly of economy sought through the channels Gary utilizes. I have never seen within the same amount of time and within the same number of classes in any other system of the same size the laws of child life, both physical and mental, so flagrantly violated. For the school world at large, Gary may serve in some respects as an example; but in quite as many others as a warning. Perhaps the greatest service it has performed is to be found in the fact that it has provoked discussion and stimulated thought. However unwise it would be to install it elsewhere, certain features of it can be incorporated with advantage in a large number of school systems. The Gary system probably contains no feature not to be found in many other less heralded school systems, nevertheless it has brought together in a manner witnessing to the originality and initiative of its Superintendent a multitude of excellent features which, although heretofore found in many individual systems have perhaps never or seldom been so ingeniously unified. It has organized them and created a unique and interesting situation.

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* Subsequent to the writing of the present article there has appeared in the "New Republic" (July 1, 1916) an article entitled "The Teachers and the Gary Plan." This article states that "Only New York and three or four cities on the Pacific coast give their elementary teachers a higher average income than does Gary." It continues "The average salary of persons actually in charge of elementary classes is $895, and exclusive of additional pay for evening classes and summer work."

I can only say that the figures I have given were, as I have already stated, taken from charts compiled by the Gary school authorities themselves to be used, I was informed, as campaign material in an effort to get the salaries of Gary teachers raised to a living wage. The impression concerning the status of teachers' salaries in Gary conveyed by the article in the "New Republic" is in every respect contrary to that conveyed by the charts exhibited. It should be noted that the data given in the "New Republic" present averages whereas the charts gave medians.

COMMUNICATIONS AND DISCUSSIONS

THE GARY PLAN: A REPLY*

B. R. Buckingham

Educational Statistician, Wisconsin State Board of Education

Editor, Educational Administration and Supervision.

Dear Sir:

I received the galley proof of the May number of Educational Administration and Supervision. I read it with interest and, of course, with most interest where I was myself concerned. I find myself extremely reluctant to enter into a controversy about the Gary report. What I should like to do if I wrote a reply to the criticisms would be to confine myself strictly to the method of making the investigation and reporting it, without at all commenting upon the merits or the demerits of the Gary plan. The position is difficult. All the criticism against the report in the May number except that of Dr. Tidyman, is from people who have on other occasions publicly taken a pro-Gary attitude. For me to oppose their views would be to appear to ally myself with those opposed to the Gary plan. I do not care for the alliance. As an investigator, I had no bias; as a schoolman, I believe in the modern school—"the school of tomorrow." I am not unmindful of recent philosophical tendencies in education, and I am in sympathy with them.

It is, no doubt, hard for those who believe in the Gary plan to understand how this can be true. I should like to think that what Professor Ross says in *School and Society* for April 8, 1916, on the conscience of the expert, accurately describes my relation to this survey. I was given a problem to investigate. The critics may think it was too early to investigate it. On account, however, of the precipitate manner in which the total adoption of the Gary plan was being urged upon the City Superintendent of Schools, and the tremendous official pressure which was being brought to bear, with this end in view, it was necessary to obtain some kind of an answer to the question at as early a date as possible. From his point of view, as the responsible executive, it was imperative that he should know the extent to which the experimental schools were offering efficient instruction in the fundamental subjects. No one, I think, can possibly find fault with that attitude. I should think that no superintendent of a large school system could afford to allow a new type of organization to be introduced by others without informing himself concerning it.

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* Note—Dr. Buckingham, at the editor's direct request, allows him to publish this communication, which, as the reader will note, is not a formal statement but merely a personal letter to the editor. We publish it for its freshness and intrinsic interest and value. C. H. J., *Editor*.

Superintendent Maxwell proposed as a test of the success of the new type of schools, the extent to which they were successful in giving instruction in the fundamental subjects. You will therefore see that the problem was exceedingly concrete. So far as the Gary schools were concerned, there were but two of them. According to their friends, they were offering as good instruction in fundamental subjects as were the regular schools. According to their enemies, they were not. Plans were already afoot to introduce the Gary plan into a great many more schools. In fact, the Board of Estimate and Apportionment made the adoption of the Gary plan of organization for the schools of New York City the condition upon which additional funds would be granted. Under these circumstances, there is a element of guile in the attitude of the friends of the Gary plan when they object to the early date at which the investigation of the two Gary schools were made. In effect they are saying: "Dr. Maxwell should have waited for a year or two, until conditions were settled at these two Gary schools and until the full effects of the new plan could be ascertained." Meanwhile, however, it was evident that long before any such time could have elapsed, the Gary plan would have become widely adopted, without the City Superintendent being informed on the question he had in mind. In short, Dr. Maxwell *could* not wait because the supporters of the Gary plan *would* not wait.

I have said that the problem was a concrete one. It was more than that; it was local and narrow. I cannot avoid thinking that those who have objected to my report have read into it meanings which it did not have. It applies, so far as the Gary plan is concerned, to two schools lately organized and not fully equipped. As the report says (Page 57), it is a comparison of "the two types of schools as to matters which one of them emphasizes and which the other does not." Within this narrow, local field, the conclusions of the report are "indisputable," as Dr. Tidyman says in his article in your May number. Those who have criticized the statistical treatment of the results of the tests are so easily answered, that there is little credit in answering them. For the most part, their criticisms consist of the working up of details which show contrary to the general averages.

Dr. Allen's "thriller" on this matter is a good illustration. The clever handling of details when sufficiently manipulated may be depended upon to becloud any issue. If the manipulator is an ardent partisan, a keen debater, and a resourceful strategist, he can apparently prove anything. By changing schools sufficiently often, Dr. Allen, for instance, can show that the "highest Gary school" or "highest pre-vocational school" outranked a number of the traditional schools. The point is that if the school you have decided upon as the ranking school in Arithmetic does not turn out to be the ranking school in Spelling, you simply change over to the one that is, changing as often as it may be necessary, to secure the result you wish. You have made no single false statement, but you have forced a false conclusion.

Somewhat of the same type, though not to such a degree, is the criticism of Director Nudd of the Public Educational Association, whose article you publish in your May number. I should suppose that this article would have little news value for you. It has already appeared in the New York *Globe* and, I think, in the New York *Times*. It has also been published in *School and Society* and in the *Journal of Education*. Doubtless it has also appeared in other places. Director Nudd's criticism is much more plausible than has usually been the case with the criticisms of my report. It has also the rather unique distinction of being in good form. The author of it, however, is a special pleader, whose constant advocacy on platform and in press of the Garyizing of the schools of New York City puts him in a position where his statements are likely to be discounted. The temptation is strong to reply to some of his statements of opinion and of fact. It happens, however, that in some instances I do not need personally to do this.

When Director Nudd's article which you publish in your May number appeared in the New York Globe, some of its points were commented upon by the school editor, Mr. Metcalfe. In regard to Director Nudd's objection that a test of a general ability of seventh and eighth grade pupils would "be regarded by most schoolmen rather as a test of the work of the preceding grades than of the particular grade in which the child happened to be," Mr. Metcalfe had this to say: "If Mr. Buckingham has based any conclusion upon the first test it would have been correct to contend that 'a test of the ability of seventh and eighth grade' pupils thus determined would have been 'a test of the work of the preceding grades.' In fact, Mr. Buckingham in his report cautions against drawing conclusions from the individual tests, as Mr. Nudd does. He says (page 32): 'The absolute standing, either in March or June, is not the particular subject of this investigation. It is, rather, the amount of progress which took place between March and June.' The test was of the relative progress of children between the March and the June test, starting from the March test as the base; in other words, starting from the test of the work of the preceding grades. Mr. Nudd's conclusions, therefore, are unwarranted and erroneous."

I would call special attention to the fact that the first of the two tests was precisely a measure, for the schools concerned, of their success during the previous six or seven years; that this was the starting point of the investigation; that no use whatever in the ranking of schools or of types of schools was made of this first test; that the basis of comparison was progress *from this point on.*

I have indicated above the real reason for what Director Nudd calls "undue haste in attempting to 'evaluate' the Gary schools. Director Nudd himself, in company with a number of others, was probably more responsible for the "undue haste" than any one else. He sums up a section of his much-published report by assuring the reader that "it would therefore seem that these tests were not only extremely inopportune, but . . . . were scientifically indefensible." Extremely inopportune doubtless they were, and the coterie of Gary supporters, official and otherwise, will probably never forgive the City Superintendent for publishing so "extremely inopportune" a report. The Statistical Division of his office, from which it emanated, has been disorganized and impaired in its work in reprisal for the inopportune report. As to whether or not the tests were scientifically indefensible depends upon whose opinion is taken. Dr. Tidyman in the same number of *School Administration and Supervision,* while commenting adversely upon the report in other particulars, says: "Without entering into a discussion of this report [the Survey of the Gary and Pre-vocational Schools], it may be said that the investigation was well-conceived and was executed along the lines of the most approved principles of statistical investigation. The study shows the same skill and careful workmanship that is displayed in the author's previous studies." Although Dr. Tidyman has not had the benefit of as much publicity as Director Nudd, he is, by training and experience, far more capable of forming a correct judgment about a scientific investigation in education.

Director Nudd also finds that "from a purely statistical point of view" my "results are open to serious question." The particular point he raises is the fact that average results of two Gary schools were compared with those of six Pre-vocational schools and eight traditional schools. There is in this a lurking idea of the inequality between 2, 6, and 8. There is a play for the assent of the person who may believe that since 2 is less than 6 and 6 is less than 8, there is some reason why the Gary schools should be found to be last, and the Pre-vocational schools next to last. The results from the schools were not averaged in the sense that the results for each of the two Gary schools were added and divided by two, those for the six Prevocational schools added and divided by six, and those for the eight traditional schools added and divided by eight. The addends were not results from schools but results from individual children. Whether a child was in one school or another had no bearing upon the average. All the children in schools of a given type were treated in the same way. The average, therefore, was, in the case of the Gary schools, a generalization of more than 1100 items for each school subject and for each series of tests. In the summary for improvement in all subjects, the generalization with respect to the Gary schools was from more than 11,000 measures, each measure being the rating of a pupil's paper (1100+ pupils tested twice in each of five subjects). Correspondingly, for the Prevocational schools the number of measures entering into the generalization was about 53,000, and for the regular schools about 35,000. I doubt if Director Nudd knows of any investigation, except some of the phases of the Courtis tests, whose conclusions have been based upon more ample material. Theoretically, the average obtained from 11,000 measures is not as reliable as that obtained from 53,000 measures or from 35,000 measures, but the reliability is very high in any case, and is a far different question from one of averaging two, six, and eight measures.

After stating that the tests and their treatment were "scientifically indefensible," "open to serious question," "fallacious," and generally, as one might say, of no value, Director Nudd proceeds to draw the comfortable conclusion that "no more favorable evidence of the satisfactory operation of the Gary plan . . . . . could reasonably be expected." One is led to inquire how tests which are so "indefensible" and so "extremely inopportune" can be said to afford any evidence at all. The evidence which they purport to offer is unfavorable to the two Gary schools, but Director Nudd finds abundantly favorable evidence in unlooked-for places and in surprising ways.

In his search for "crumbs of comfort," he first hits upon the device of comparing Public School 43, The Bronx, with Public School 46, The Bronx, its neighbor—"the only other school in the Bronx selected by Dr. Buckingham for purposes of comparison." Neither Public School 46, The Bronx, or any other school was selected by me for purposes of comparison. No school has been compared with another by any one except those who, finding that the general weight of the results was against them, began to search for details to the contrary. There was, immediately upon the publication of the report, a demand from the Comptroller's office for these details, and particularly for the actual names of the schools, with the record for each. In spite of the fact that an understanding existed between the City Superintendent's office and the principals of regular schools to the effect that the names of their schools should not be made public, the official demand was so persistent that, along with the detailed record, there were transmitted the names of the schools with the request that this part of the information be regarded as confidential.

I am informed from New York that Mr. Nudd had access to these details. If such is the case, he made a very bad use of them. In the first place, he obtained the improvement records of his two schools by subtracting the average rating for *all* children in these schools who took the tests in March from the average rating of *all* children who took them in June. A great deal of reorganization was going on among these schools in addition to the normal fluctuations of register. The group at Public School 45 which took the test in June was not the same as the group which had taken the parallel test in March. New pupils had entered and old ones had withdrawn. The only valid basis upon which a progress record could rest would be the records of such children as took both the March and the June tests in a given subject. This is the basis which I used in my report, and it is the only basis which can be justified. If I have been correctly informed, this basis was available to Mr. Nudd in the detail furnished to the Comptroller. He neglects it, however, when he says that the improvement figure for Public School 45 was 4.2% as compared with 0.3% for Public School 46. The true statement should be:

	Based on Avg. of Subjects	Based on Weighted Avg. of Subjects
Improvement for P. S. 45 (Gary)	4.7%	3.4%
Improvement for P. S. 46 (Reg.)	3.1%	4.0%
Difference in favor of P. S. 45	1.6%	
Difference in favor of P. S. 46		0.6%

Even the poor consolation of discovering for P. S. 45 a superiority over a single selected Regular School—*and that the one showing the least improvement*—is denied to the critic if account is taken of the relative importance of the subjects in which the tests were given.

Director Nudd labors hard in the case of Public School 89, shifting his ground from the consideration of progress to the consideration of absolute standing, because in the latter respect Public School 89 made the better showing. Commenting upon this phase of Director Nudd's article, Mr. Metcalfe says:

"It is important to note how Mr. Nudd uses two diametrically opposite methods to distort the Buckingham tests and what they disclosed. Comparing P. S. 45 Bronx with P. S. 46 Bronx, he uses units of progress. Comparing P. S. 89 Brooklyn with the other Brooklyn schools he uses relative standing in each test, although in the first part of his criticism published last Saturday he declares that such tests considered by themselves were tests of the instruction that had been given in the earlier grades, and although Mr. Buckingham declared that he himself was not reaching conclusions based upon the results of each test by itself.

"Applying to the Brooklyn schools the unit Mr. Nudd used in considering the Bronx schools and applying to the Bronx schools the unit Mr. Nudd used in considering the Brooklyn schools, exactly the opposite conclusions result. Thus on the March test P. S. 46 Bronx had 48.9 and 45 Bronx 41.8, while in June the respective ratings were 51 and 45. The progress table for the Brooklyn schools, instead of putting P. S. 89 first, relegates it to fourth place, thus: P. S. 152, 10.5 per cent. [8.5 per cent.]; P. S. 12, 10.3 per cent. [9.1 per cent.]; P. S. 5, 9.8 per cent. [9.9 per cent.]; P. S. 89, 6.6 per cent. [7.6 per cent.]; P. S. 158, 4.4 per cent. [3.6 per cent.]; P. S. 149, 4.2 per cent. [4.0 per cent.].*

"No more flagrant distortion of the results of tests could have been made. . . . .

"In conclusion it is important to repeat again that the Buckingham tests were concerned only with rate of improvement between the two tests; that the first test established the base; that if considered as a unit it records only the results of the instruction of the earlier years; that the second test, if considered alone, records the results of instruction of the earlier years plus the results of instruction during the interval between tests; that it is unwarranted to draw conclusions solely upon these individual tests for the reason that not all of the children took both tests; that improvement noted is the proper test, and that no facts have been presented to alter or to destroy the conclusions reached by Mr. Buckingham."

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* Figures in brackets are the figures based upon the records of pupils who were present at both the March and the June tests They were not accessible to Mr. Metcalfe at the time he wrote his reply to Mr. Nudd.

There is no point, however, in comparing P. S. 89 with the other Brooklyn schools, which are no more likely to resemble it than schools in other boroughs. It is frivolous, when seeking an answer to a question about types of schools, to resort to these details when reference may be had to figures which really answer the question. If work is properly done and details are handled as they should be, there is no compromise to be had with a general result. It is the resort of those who dislike the general result and who wish to prove something different to engage in the manipulation of the details—all of which may be vital for other purposes, but which, after being used to contribute their share to the general result, may well fall into the background. It is not what P. S. 89 did, nor is it what P. S. 45 did that answers our question. The thing that people are interested in knowing is what has been the effect of the introduction of the Gary plan; and any attempt to deal with less than all the pupils who came under the Gary plan, is but an incomplete and misleading answer.

I had no idea when I began this letter that I should carry it to this length. I had concluded that I would make no answer to the critics of my report. It is largely a matter of chance that I have given so much attention to Director Nudd's article. As a matter of fact, it is one of the better class of criticisms which have emanated from supporters of the Gary plan. I think I have said enough, however, to show what reliance can probably be placed upon these criticisms. As I said in the beginning, those who write them have, by tongue and pen, declared their attitude in other connections.

In conclusion I may remark that the criticism of Dr. Tidyman to the effect that no account was taken of the relative cost in time and money of securing the larger improvement of the regular schools is no doubt valid. As a matter of general knowledge, however, it has been the constant assertion of the supporters of the Gary plan that the Gary schools provided at least as much time for academic work as did the regular schools. In fact, in the concluding paragraph of Director's Nudd's article to which I have made so many references, the following words occur: " . . . in view of the fact that the children have the same teachers and spend at least as much time upon academic work as under the traditional plan." Such being the general understanding at the time the report was written, it seemed unnecessary to take account of the time amd money cost.

Yours very truly,

B. R. Buckingham.

BOOK REVIEWS

ALBERT BUSHNELL HART. *The Monroe Doctrine: An Interpretation.* Boston: Little, Brown and Company, 1916. (Pp. XIV, 445.)

This book is a genuine contribution to the literature concerning the great American puzzle. In his preface Professor Hart declares that no "public policy of the United States has ever taken such hold upon the imagination of the American people as the so-called Monroe Doctrine." As its title and sub-title indicate, the volume not only furnishes an historical account of that doctrine but it also proposes an interpretation.

The work—including the bibliography—is composed of seven parts. The seventh part contains a select bibliography of books concerning the Monroe Doctrine, exclusive of articles in magazines and periodicals. The first part deals with the original Monroe Doctrine. Among the topics there considered are: the rise of the Spanish-American states, the Holy Alliance, the controversy between the United States and Russia, and the authorship of Monroe's message of December 2, 1823. Some attention is paid to early applications of the now-famous doctrine. The second part is entitled "Variations of the Monroe Doctrine, 1827–1869": this includes a chapter entitled "How to Get On without Monroe,"—a chapter which deals with the policy of the United States towards French intervention in Mexico. Part three discusses various applications of the so-called Doctrine of Monroe from 1869 to 1915. The author designates some of these applications as the doctrine of paramount interest, the American doctrine, the Roosevelt doctrine, and its successors. Chapter twelve, which is entitled "The American Doctrine against Great Britain (1885–1898)," discusses the "Olney Doctrine," the "Cleveland Doctrine," the "Salisbury Doctrine," the "Lodge Doctrine," and the "Cleveland-Olney Doctrine." Part four deals with present-day conceptions or interpretations or criticisms of the so-called Monroe Doctrine, including some German notions in regard to it. Part five entitled "Present World Conditions" contains a discussion of the policy adopted by the United States toward Cuba, Panama, Santo Domingo, Central America, and Mexico.

In part six, which is designated the "Doctrine of Permanent Interest," the author presents some recent and diverse definitions of the Monroe Doctrine, European as well as American. Further, he seeks to find the logical basis for a doctrine which may express the attitude of publicists in the United States toward the Latin-American states. When presenting his formula for such a doctrine—a doctrine which he almost identifies with the Monroe Doctrine—he declares that it does not reflect his own views but is "a condensed statement of what he believes to be the body of principles held by the American people." Professor Hart's summary of the present status of the Monroe Doctrine contains a declaration in favor of democratic forms of government in the Three Americas. "Attempts from without to substitute monarchical forms of government are hostile to the United States." It declares that there is "no opportunity for foreign nations to alter the map of America, though the American powers may combine or separate, and the United States is free to annex territory according to her judgment." It states that protectorates by the United States over small, adjacent states are allowable. The Republic of the North should leave to European and Asiatic states "no good reason for intervening in America except the defense of national honor or interest from violence. . . . Against any effort to build up colonies our government will protest, and in the last resort will use military and naval force to ward off what would otherwise become a danger to the United States." The principle of coöperation between the United States and Latin America is commended; but it is a coöperation which would not subordinate the United States to her neighbors. Then follows Hart's statement of the basis for these policies: "These principles depend upon the permanent interest of the United States in preventing European nations from altering the controlling status of the United States by conquest, by colonization, by acquiring naval stations, or by intervening in behalf of contracts, claims, or debts." To maintain such a doctrine, Professor Hart, who sat at the feet of Treitschke "and doubted his master," pleads for military preparedness on the part of the United States.

This volume is thought-provoking. Its controlling theme—apparently in the main an elaboration of views long entertained by the author—is that in reality there was only one Monroe Doctrine composed of the principles embodied in the President's message of December 2, 1823, and that so-called applications of the original Monroe Doctrine were to a greater or less extent departures from that doctrine. Of the author's ingenious and notable attempt to formulate an American policy, the reviewer will allow the future to pass judgment. He cannot, however, refrain from expressing an opinion that a volume might be composed which would consider some of the doctrines discussed in this book as applications of the great principle announced in the most memorable message ever penned in the White House: a principle which announced that there should be a limitation upon the extension of European (foreign) power and influence in America. Many students of the Monroe Doctrine, whether iconoclastic or not, will place Professor Hart's volume on their library shelves beside Reddaway's scholarly volume.

William Spence Robertson.

Buenos Aires, Argentina.

G. A. Miller. *Historical Introduction to Mathematical Literature.* New York: 1916. The Macmillan Company. (Pp. xiii+302. Price $1.60.)

In recent years there has been apparent in American and foreign universities a revival of interest in the history of science and in the development of scientific ideas. The present work by a mathematician who has distinguished himself in the field of the theory of groups is an interesting piece of evidence of the widespread interest among mathematicians and teachers of mathematics in the history of this discipline which has been such a large factor in all ancient, medieval, and even modern systems of education. Those who have even a secondary concern with the study of elementary mathematics will find much in this work of real value in giving a broader outlook upon the subject. As the title is so general that the nature of the contents is not self-evident it may be well to present the chapter headings. Following a chapter on "General Observations," come chapters on "Mathematical Literature in General," "General Historical Questions Relevant to Mathematics," "Fundamental Developments in Arithmetic," "Fundamental Developments in Geometry," "Fundamental Developments in Algebra," and "Twenty-five Prominent Deceased Mathematicians"; the appendix gives necessarily incomplete lists of important mathematical works in various departments of the subject.

While the special attention to modern mathematics and mathematicians is highly to be commended the view that a first course in the history of mathematics should largely concern itself with recent mathematical events and developments is not capable of justification, either logically or pedagogically. The history of mathematics in the past has consisted too often of a mass of biographical material, even anecdotes, having nothing to do with the development of the science. The recent attention to the ancient and medieval mathematics has emphasized the genesis and growth of scientific ideas, particularly of those ideas which are embodied in modern elementary arithmetic, algebra, and geometry. Any serious historical study for college students must concern itself with ideas which are somewhat familiar to those students. Modern mathematical science is too highly specialized to enable the ordinary student to obtain any adequate appreciation of the fields of research of modern mathematicians; to mention that certain men have achieved fame by their researches in elliptic integrals, in quaternions, in the theory of functions, in transformation groups, or even in differential equations is enlightening and truly historical only to those who have some slight conception of the mathematical ideas involved in these topics. On the other hand the ancient Greek mathematics and the Hindu and Arabian mathematics are largely concerned with the ideas of our ordinary arithmetic, algebra, and geometry; this seems sufficient justification for the study of ancient and medieval mathematics.

Of the many interesting discussions in the work particularly pleasing and enlightening is, among others, the exposition concerning the fundamental theorem of algebra (pp. 185–191). Misprints are fairly common; a mathematical slip is the reference (p. 144) to an identity as an equation; among the many omissions particularly noteworthy is the absence of any discussion of logarithms and decimal fractions, two fundamental developments in arithmetical computation.

The work is commended to the student of education as containing valuable material on the development of mathematical ideas.

LOUIS C. KARPINSKI.

University of Michigan.

WILLIAM T. WHITNEY. *Moral Education.* An Experimental Investigation. Boston: Leroy Phillips. (Pp. 108.)

The author in this small volume sets forth the demand for moral education, presents the results of an experimental investigation and gives his conclusions based on the investigation with a definite plan for direct moral instruction in the public schools. An added chapter gives data concerning the vocational careers of a number of pupils after leaving school.

The attempt to show in a quantitative way the relation of moral and religious training and instruction to the daily life and conduct of boys and girls is an unusual undertaking in the field of moral education. A study was made of six hundred boys and six hundred girls by the author of the book. The study extended over a period of five years and the facts were gathered from Superintendent Whitney's school relations with boys and girls, by visiting their homes and from church and Sunday School records. Facts regarding the home training, church attendance of pupils and parents, deportment and scholarship were collected and studied. The results are presented in distribution tables and are also represented graphically. The axes of the distribution tables show that there is a positive correlation between religious training and deportment, between home training and deportment and between deportment and scholarship. Although the investigation reveals no new facts and only gives a quantitative experimental demonstration of what we have long believed to be true, yet it is worth while because of the application of the methods of experimental investigation to the problems of moral education. It ought to stimulate others to undertake similar investigations in this and other related fields.

The chapters following the discussion of the investigation present the author's ideas as to how moral training and moral instruction are to be secured. He believes that because of the growing unsatisfactory results obtained by the church and the home along these lines the burden and problem of the school is becoming greater. The direct method of moral instruction in addition to the indirect method is advocated. The teacher should have special preparation and training for this kind of work. Attention should be given to the physical life because of the dependence of the moral life on the physical well-being of the body. Good manners have a vital relation to good morals. The recitation is a medium for moral training. Morality is closely related to religion. A brief outline of moral instruction for the grades is suggested.

The final chapter, entitled "What Public Schools Have Done," is not closely connected with the rest of the book. The careers of one hundred seventy-nine boys quitting school before entering high school, three hundred twenty-one entering high school, two hundred graduating from high school and one hundred fifty-one entering college were investigated and compared. The author's conclusion is that "the work and influence of the school is good." Studies of the type reported in this chapter ought to be of especial interest to those engaged in curriculum planning and those interested in vocational guidance.

G. J. KOONS.

Murphysboro, Illinois.

JONATHAN FRENCH SCOTT. *Historical Essays on Apprenticeship and Vocational Education.* Ann Arbor, Michigan: Ann Arbor Press. 1914. Pp. 96.

The author's prefatory note states that these essays comprise selected chapters from his doctor's thesis, to which are added three chapters discussing vocational educational education in the light of the apprenticeship system.

He finds the origin of apprenticeship hidden in the obscurity of the Middle Ages, and traces its development through several stages in England. Brief mention is also made to the system on the Continent and in America.

He describes the high efficiency developed in the skilled trades, and also the legal status of apprentices, journeymen and masters.

Two laws of vital importance to apprenticeship are reviewed: the Artificers Act of 1562, and the law of 1601 making the apprenticing of beggar children obligatory.

He portrays the excellence of apprenticeship in the fifteenth and sixteenth centuries as an educational system, and praises the skill as well as the social advantages it gave apprentices.

He traces the decline of the advantages and the subsequent evils of the system in the eighteenth and nineteenth centuries, to the waning influence of the gilds, and this in turn, to changing industrial and social conditions, such as the growth of the 'rural' industries, and the rise of capitalism and the factory system. The later apprenticeship was far inferior to that of the earlier centuries in efficiency of training, in education, in social conditions and in humane treatment of apprentices. This the author attributes chiefly to the above mentioned laws and to the law permitting masters to take large numbers of young apprentices.

In these conditions he finds the origin of the evils of child labor so common in the nineteenth century, and he holds as impossible any apprenticeship system under present social and industrial conditions in America.

The last three chapters present the author's personal reaction to data presented in the earlier chapters, and his estimate of their bearing upon the vocational and industrial needs of the United States.

The author strongly emphasizes the inadequacy of all the substitutes which have been proposed, or attempted to fulfill the function formerly accomplished by the apprentice system, and holds that the only solution of the problem of America's social requirement, as well as of her industrial supremacy is to make industrial and vocational education an integral part of the public school system.

From the standpoint of style, the character of the subject matter makes an attractive presentation difficult, and the admittedly patchwork character of the book makes it somewhat lacking in unity. However the work is replete with quotations from, and citations to, such original sources as gild records, town annals, laws, court record, and early histories, making it a valuable index of source materials.

A. J. BEATTY.

Urbana, Illinois.

ENOCH BURTON GOWIN. *The Executive and his Control of Men.* New York: Macmillan, 1915. (xv & 349 pp. $1.50.)

The book is a study of executive efficiency by an assistant professor in New York University. It is an analysis in three parts of the psychology of management and an explanation of the control of men by executives.

Part I: The Executive as an Individual—what sort of man he is, and how he differs from ordinary men in size, weight, intellect, personality, etc.

Part II: The Exectuive Dominating the Organization—how men are stimulated and controlled, etc.

Part III: The Executive Limited by his Co-Workers—by apathy, opposition and competition; how the executive expands his limits, adapts himself, innovates wisely, etc. There is a bibliography and series of questions at the end of each chapter, so that the book is adapted for text book use.

This treatise opens up a new field. It is a vital subject; but it is probably not given attention in a single college of business in any American University. It discusses principles of executive ability and how these principles are exemplified in the great executives of history, and shows what methods are used by living executives. It is full of suggestions for modern administrators who desire to improve their efficiency by freeing themselves from weakening habits. The material is based to a large extent upon data furnished by several hundred executives themselves. The data seem to have been carefully sifted.

Probably too much significance is given to the super-normal size and weight of executives. In the chapter on "Emulation" the author probably overemphasizes the principle of rewards for work stimulation, as against the obligation of a person to do his work to the very best of his ability.

The best chapters are: The Physique of Executives; Source of Personal Power; Increase of Power; Organization and Systematic Personal Effort; Personality; Suggestion; Discipline; Avoiding Opposition; Adaptation; Emulation. There are twenty-four chapters in the book. The author recognizes that all men are not created equal and leadership is essential in any organization where efficiency is to prevail. The book should be welcome not only to administrators and persons contemplating such work, but also to students of social psychology and even the general reader who desires to familiarize himself with the inner workings of executive machinery and improve his executive qualities.

University of Illinois. VERGIL V. PHELPS.

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EDITORIALS

Military Training in High Schools—Once More

NEW York State has established a Military Training Commission and directed its membership composition of three, the Major General commanding the National Guard ex-officio, a member appointed by the Board of Regents and one appointed by the governor. This commission shall recommend to the Board of Regents the establishment in schools of "habits, customs and methods best adapted to develop correct physical posture and bearing, mental and physical alertness, self-control, disciplined initiative, sense of duty, and the spirit of coöperation under leadership."

These innocuous platitudes from the point of view of administration (with jokers in them meaning schemes for recruiting in emergencies and for hoodwinking the credulous) are written into the school laws of a great state, and for political purposes pretend to be statutes in the interests of real national preparedness. These three commissioners, outside the school authorities (enough of them already in all conscience in New York State), are for veiled purposes to interfere in purely educational work under the pretext of the natural latitude for butting in allowed by the educationally absurd and vicious law.

In addition to this assured interference with educational administration these newly wise and independently constituted commissioners are to prescribe military training for boys between the ages of 16 and 19, a minimum of three hours a week. The result will be perhaps a parading ability with its humbug of apparent mechanical efficiency under wholly artifical conditions. It cannot possibly be a response to what President Lowell has rightly characterized modern warfare to present to public educators—a complex problem of administration and engineering and even scientific mechanics. Summer camps, little Plattsburgs! are to be established, but boys who work (and a large number of the best ones do work) in the summer are to be exempted. The whole undemocratic thing is unfortunately not even surprising. It is merely a characteristic superficial political solution of a profoundly educational question.

WHAT ITS PROMOTERS THINK—OR CLAIM

To the superficial or the "occasional" thinker any incident indicative of grave defection in social conditions, such as the outbreak of a series of juvenile crimes in cities, cries for an immediate specific squelching remedy, which will, they always add confidently, stimulate self-control, respect for authority, and a sense of responsibility to the community. These quick "reforming" thinkers see in a flash that these things are essential to individual virtue and even more to national or state or community safety. These remedy discoverers do not think so enthusiastically of the subtle but permanently restraining and refining effects of sound systematic educational processes, of wholesome recreative sports, of art environment or of moral and religious "elevating restraints." Like those "Absolutists" educators or parents who fall back upon the rod or upon the authority of their position as such, or upon the peremptory, unreasoning commands for servile obedience, these militaristic educational reformers fall back upon secular support and—impose a law! They say they are "stiffening moral fibre." They think their little formulae will "bring youth early to a maturity of ideas of responsibility," overlooking the thing their scheme really lacks—ideas! They think they are consolidating conceptions of duty, law and even of nationality. They furthermore think America is wholly, mysteriously, immune to the aristocratic militarism with which Europe is afflicted. They talk blatantly about America's need of "regimentation." They idealize a patriotism which is to be the proud product of boys thinking together in higher (?) (military) units than the individual and of their being more conscious of "mass emotions."

THEIR NEW YORK MODEL

For these agitators New York's experiment with universal military training, while not by any means bold and explicit enough, is still a fine state example. It ensures at least a rudimentary training for military service. It will produce "military material" and will promote the idea of compulsion and will improve the morale of citizenship. To them the new law makes for a "military discipline" which is a genuine complement to what we have in a former editorial characterized as the "Absolutist's doctrine of school discipline."

THE ABSOLUTISTS AND THE EXPERIMENTALLISTS

In former editorials we have illustrated in various ways the fundamental differences between the two schools of educational thought and have cited examples of the two groups of thinkers. The position of the Absolutists is easily recognized here. The position of the Experimentallist is not so easily stated, but it is evident that the Experimentallist will never countenance a sort of school discipline policy or philosophy which applies *only* to one aspect of the child's life, and which must be supplemented artificially by an external application of a non-educational kind of discipline. In short there is a nigger in the wood-pile of these Absolutists who would furnish us over-night with a militaristic moral remedy for our national ills.

THE RECENT N. E. A. RESOLUTION ON THE SUBJECT

Resolved, That the National Education Association gives expression again to the consciousness that the school is an institution developed by society to conserve the well-being of humanity, and that on this solid foundation all subordinate aims and uses of the school should be made to rest. Assembled as it is in a time of world-wide disturbance, doubt, and uncertainty, and of consequent national concern, the Association affirms its unswerving adherence to the unchanging principles of justice between persons and between nations; it affirms its belief that the instruction in the school should tend to furnish the mind with the knowledge of the arts and sciences on which the prosperity of the nations rests and to incline the will of men and nations toward acts of peace; it declares its devotion to America and American ideals and recognizes the priority of the claims of our beloved country on our property, our minds, our hearts, and our lives. It records its conviction that the true policy to be followed both by the school and by the nation which it serves, is to keep the American public school free from sectarian interference, partisan politics, and disputed public policies, that it may remain unimpaired in its power to serve the whole people. While it recognizes that the community, or the state, may introduce such elements of military training into the schools as may seem wise and prudent, yet it believes that such training should be strictly educational in its aim and organization, and that military ends should not be permitted to pervert the educational purposes and practices of the school.

SIGNIFICANCE OF THE RESOLUTION

This resolution appears on its face as a resolution sufficiently meaningless and innocuous for any one. Like the law referred to above it meant more to those of the journalistic fraternity who wished to make immediate copy out of it—or who perhaps already had their copies made. At any rate it seemed capable of profitable "publicity" use, Indeed the newspapers apparently had it for use as soon as if not before the voters had approved. Though perhaps fewer than 500 members voted for it, on the oratorical assurances that it was harmless and did not say anything in particular, it nevertheless was used widely by the military preparedness press as representing the 9000 attending members, who in reality at this moment were playing hookie and "seeing New York." It was even heralded as representing a significant conversion on the part of the teachers of the country, a reversal of their position of a year before. It seemed to an interested on-looker rather to show that our national associations of teachers is yet unwilling or at least not so organized as to do really intelligent corporate "resolving" in the Ben Franklin sense of this term. The N. E. A. Resolutions should not be hastily formulated in the confusion of hotel lobby conference just before presentation. They should, if this important function of corporate resolving is to be developed as it might be, be printed and distributed to every member at least three months before the date set for voting upon them. Needless to say further, they should resolve with some explicitness upon really vital educational issues.

VISCOUNT BRICE ON THE SUBJECT

James Brice's "own faith, grounded and steadied by the acquaintance of a long life-time with the highest and noblest ideals of humanity" is well reflected for us in an article on *War and Human Progress* in the September *Atlantic*, being a paper recently read at the University of Birmingham. Although he surveys with masterly simplicity in statement the nations of history with specific reference to the question as to whether they seem to have profited or suffered injury from the war or the peace method in promoting progress, his conclusions apply equally to the problem of national methods of preparedness, and contain a most salutary lesson for all of us, especially for those who lightly write quick administrative remedies upon the statutes of states.

"Human progress must be the standard of measurement. The term covers quite different things. There is Material progress, by which I understand an increase in wealth, that is, in the commodities useful to man, which give him health, strength, and longer life, and make his life easier, providing more comfort and more leisure, and thus enabling him to be more physically efficient, and to escape from that pressure of want which hampers the development of his whole nature.

"There is Intellectual progress—an increase in knowledge, a greater abundance of ideas, the training to think and to think correctly, the growth in capacity for dealing with practical problems, the cultivation of the power to enjoy the exercise of thought and the pleasures of letters and art.

"There is Moral progress—a thing harder to define, but which includes the development of those emotions and habits which make for happiness, contentment and tranquillity of mind; the absence of the more purely animal and therefore degrading vices (such as intemperance and sensuality in all its other forms); the control of the violent passions; good-will and kindliness towards others—all the things which fall within the philosophical conception of a life guided by right reason. People have different ideas of what constitutes happiness and virtue, but these things are at any rate included in every such conception."

Brice then raises the question as to whether human progress is to be estimated in respect to the point to which it raises the few who have high mental gifts and the opportunity of obtaining an education fitting them for intellectual enjoyment and intellectual vocations, or is it to be measured by the amount of its extension to and diffusion through each nation as a whole—the average men as well as the superior spirits. Another question is whether we must think of the world as a whole or only of the stronger and more capable races. All three kinds of progress mentioned above will be judged differently as determined by our answer to the two questions. Does history show that progress has come more through and by war or through and by peace? Brice pursues this fascinating query, applying it to nation after nation, inquiring specifically regarding the above hierarchy of progress types. The obvious effect of war and literal preparation for war as if it were a natural national pursuit is to turn the thoughts of a large proportion of the people toward military and naval topics, and of inventors toward researches profitable for war, and only incidentally valuable in other fields, "the main effect" being "to distract from pure science, and from the applications of science to industry, minds that might have done better work for the world in those fields of activity. In general the thoughts of a people that delight in war will be occupied with material considerations; and while the things of the body will be prized, the things of the mind will be disparaged, save in so far as they make for military success. A fighting caste will be formed, imposing its peculiar ideals on the people; the standards of value will become more and more practical, and the interest in pure truth and in thought and art for their own sake may decline. * * * * These are conditions not favorable to progress in the higher forms of literary or scientific work."

Regarding ethical progress "preparation for soldiering" produces "a type of character marked by discipline and the habit of obedience. The Spartans were in the ancient world the example of a people who excelled in these qualities, uniting to them, however, an equally marked insensibility to the charms of poetry and art. They produced no literature, and seemed to value none except martial songs. Discipline is valuable, but it implies some loss of individuality; obedience is useful, but (except with the highly intelligent) it involves some loss of initiative. If it increases physical courage, it may depress that moral courage which recognizes allegiance to Right rather than to the Might of the state."

Such things inevitably tend to exalt "physical strength and the principle of Force as against the mind and the love of truth and the pleasures of thought and knowledge." The thing we call Militarism is not a cause of any of the types of human progress. Instead it creates a "type of character in which the harsher, and what one might call the heathen, virtues are exalted above those which the Gospel has taught and through which the moral elevation of the world has been secured." * * * * "It is the races that know how to think, rather than the far more numerous races that excel in fighting rather than in thinking, that have led the world. Thought, in the form of invention and inquiry, has given us those improvements in the arts of life and in the knowledge of nature by which material progress and comfort have been obtained." National isolation is what retards progress. National intercourse, not fighting quickens it. "A study of history will show that we may, with an easy conscience, dismiss the theory of Treitschke—that war (and by implication preparation for war) is a health-giving tonic which Providence must be expected constantly to offer to the human race for its own good."

We have not disentangled as clearly and as dispassionately as has Viscount Brice the subtle factors of human progress. With the help of the new philosophy of education that is coming to us enveloped in such baffling practical questions as have been discussed above we shall as a nation probably construct our own hierarchy of "human progress values" and build our laws and frame our resolutions accordingly.

C. H. J.

BOOK NOTES

Clarence R. Aurner. *History of Education in Iowa.* Vols. I and II. Iowa City: State Historical Society of Iowa, 1914. Pp. Vol. I, xiv, 436; Vol. II, vii, 469.

A work which puts the state of Iowa in the lead as regards the conservation of its actual educational history in attractive and usable form. The unusually attractive binding, paper and type make the two volumes of the series a substantial addition to the appearance of ones library. A reliable and exhaustive analysis of the contents of this pretentious series may be expected in a subsequent issue.

Frank Washington Ballou. *The Appointment of Teachers in Cities.* Cambridge: Harvard Studies Vol. II., Harvard University Press, 1915. Pp. xiii, 202.

This book represents a study of the methods of appointment of teachers in seventy-two typical school systems and the legal part these differently constituted agencies play in this appointing. On the basis of these descriptions and criticisms, better methods are suggested. Besides using the usual available general literature for such data as the study required the author by extensive personal correspondence had his tabulated facts and evaluations confirmed by the superintendents of schools concerned.

The study is a valuable one and in tone, manner of presentation, and educational judgment preserves the standard set by the first volume of the series.

Charles S. Bernheimer and Jacob M. Cohen. *Boys' Clubs.* Baltimore: The Lord Baltimore Press. 1914. Pp. 136.

This book is very suggestive for those engaged in any work which has to do with boys and girls. While the ideas are not new, the organization into book form is worth while. The substance of the book is about as follows:

The gang is inevitable. Utilize it for better boyhood and better government. The club is a miniature government when properly directed, and there the boy may learn self-control and the principle of the square deal. A forceful club leader is essential to the life of the club for under boy rule alone the tendency is to deteriorate. Nevertheless, let the boys manage wherever possible for it serves as their training ground.

A brief parliamentary guide is included in the book; also a list of themes for debate; a club constitution and by-laws; correct forms for the keeping of minutes, reports, and accounts, both club and individual; Various other data of usable character may be found in the book.

CHARLES A. BRACKETT. *The Care of the Teeth.* Cambridge: Harvard University Press, 1915. Pp. 63. $0.50.

This comprehensive little handbook is published in the series of Harvard Health Talks. The author, Dr. Brackett, Professor of Dental Pathology in Harvard University, deals first with the care of children's teeth, the importance of possessing good teeth as an essential condition both of health and culture, the influences of heredity and of environment, the development of the first teeth, the causes of their irregularity, and the relation of the child's general health, especially the evil consequences of throat obstructions such as enlarged tonsils and adenoids. He then discusses under the constitution of the teeth, their chemical nature, their imperfections in formation, and the causes and nature of their diseases. Under his last topic of preservation of the teeth he stresses their daily care, the kinds of brushes and detrifices, the necessity of frequent consultations with a dentist, and the desirability of at times providing special nutrition for the teeth.

All elementary school teachers and all mothers should read this little book and in the light of its teachings more intelligibly talk things over with their dentists.

BURTON AND MATHEWS. *Principles and Ideals for the Sunday-school.* Chicago: The University of Chicago Press, 1907. Pp. vii, 207.

A somewhat general but eminently sane statement of the broad principles which should underlie curriculum making in the Sunday-school. Like so much of the same sort of writing about curriculum making for the regular schools the principles are so general as to furnish little help in the concrete problems which a modern progressive Sunday-school superintendent must face in the actual mapping out of the sequentially arranged courses which make up the schedule of work for periods covering a number of years. One could wish that the authors now would feel inclined to make a step in advance of this book equal to the step taken by this book (written in 1903) beyond anything available when it was issued.

CHARLES S. CLARK. *School Report, Somerville, Mass., for 1914.* Published 1915.

This report contains one of the best discussions of the whole question of vocational guidance so far as public school procedure is concerned. Not only do we have the usual individual analysis of the whole student body, but we have a comparison of results of each particular inquiry with those obtained by other investigators, and best of all we have in detail the recommendations for every phase of the work which is to be the organized outcome of these investigations. Each step in the constructive organization of school machinery for this work is clearly stated. Other features of this interesting report are the curriculum principles and plans for pre-vocational and vocational work, for domestic education, and for adapting Gary features which will bear transportation.

EDWIN G. COOLEY. *Vocational Education in Europe.* Chicago: The Commercial Club of Chicago, Vol. I, 1912; Vol. II, 1915. Pp. Vol. I., 347; Vol. II., 177.

This volume of Vocational Education in Europe gives an account of the observations and experiences of the author during the winter of 1913-14. A previous investigation, described in Volume I, was devoted chiefly to the investigation of commercial and industrial schools in Germany, Austria, and Switzerland.

The Commercial Club of Chicago has given considerable attention for many years to the subject of vocational education, and decided to supplement the earlier investigation by a study of agricultural schools of lower grade. The author accordingly visited England, Ireland, Norway, Sweden, Denmark and Germany, and gives the results of his observations in this volume.

The author also studied the supplemental welfare work for young people in attendance at vocational schools, and observed as closely as possible the systems of control and supervision of vocational schools employed in the countries visited.

It was hoped by the Commercial Club that these two volumes would serve to aid in providing information primarily for the state legislature of Illinois, regarding a plan of making the vocational school the center of a systematic movement for promoting state-wide practical training. Naturally, the interest of both author and Commercial Club, being in the establishment of these vocational schools under a separate state supported plan of organization, led to the special study and report of the problem of control and supervision as it has been worked out in Germany and other foreign countries.

PHILIP W. L. COX. *Solvay School Report and Year Book, 1914-1915.* Pp. 112.

This is one of the most interesting and valuable school reports which have been received by this journal. The tables, charts, interpretations, discussions of educational principles, reports of local surveys, analysis of pupil groups, outlines of administrative procedure, proposal of future projects, and anticipation of immediate developments make it an educational treatise of more than local interest and importance. The discussion of curriculum differentiation, of the intermediate school, or junior high school, the new feature of a readjustment year at the completion of the second cycle of public school work, and the accounts of various methods of socializing the whole school are particularly noteworthy.

ELLWOOD P. CUBBERLY. *Report of a Survey of the Organization, Scope, and Finances of the Public School System of Oakland, California.* Board of Education Bulletin, No. 8, June 1915. Pp. 48.

The three parts of this important report by Professor Cubberly, who is one of the most active and best qualified of our school surveyors, deal respectively with (1) the form of organization of the administrative departments, and the overhead expense of the school department; (2) with the scope and further needs of the school system; and (3) with the financial aspects of the problem and the ability of Oakland to maintain good schools. It succeeds in impressing one with the mportance and magnitude of the work for which Boards of Education in our cities are responsible. We hope Professor Cubberly will generalize this and similar experiences he is having in analyzing these matters and thus make more accessible to all the principles which he thinks are of practically universal application.

A. C. DE LA CROMMELIN. *The Star World.* Baltimore: Warwick and York. Pp. 263. Price 40 cents.

This little book gives a very clear and simple treatment of astronomy It seems to have been intended primarily as an aid or supplementary text for elementary classes, but, in its freedom from technical terms and from the academic attitude, it is interesting also to the casual reader. It compares the science of astronomy and its achievements with the astronomy of the ancients and explains just how the marvelous results have been obtained. Much data are contained in the book which should be of value to classes in geography as well as in astronomy

JOHN DEWEY AND EVELYN DEWEY. *Schools of Tomorrow.* New York: E. P. Dutton & Co., 1915. Pp. 316.

Professor Dewey is perhaps our only American writer on education who can be said to have as a background an articulate philosophy which is recognized by layman and professional philosopher alike. Further than this, in his case, we have of course, the consideration that he is a national philosopher with an international reputation. For many years his admirers and all others interested in the more permanent and fundamental problems of education have hoped for a systematic treatise from him.

In the present volume we have at least further and welcome illustrations of his point of view, if not exactly the systematic treatment suggested above. In this book no complete theory of education nor exhaustive interpretation of other systems is given. We do have, however, an analysis of schools, actual schools, which are working out consciously definite educational ideas which Dewey approves. They are representative of what is being done today "to vitalize the school life of children." Conceptions fundamental to the authors are, the necessary role education must play in a democracy and the necessary freedom and identification of the child's life with his environment and outlook. Miss Dewey contributes the descriptive chapters and Dr. Dewey the more theoretical and interpretative portions.

A casual reading of the book will help to a realization of a wide educational vision. Information too of a vital sort is here pleasantly accessible of Gary and Gary extensions, Mrs. Johnson's school at Fairhope, Alabama, interesting elementary schools under the direction of the more advanced schools of education, of universities, unique public schools in Chicago and Indianapolis, and other types of equally interesting private schools—all in the pursuit of an inspiring and developing educational ideal. With the present surfeit of educational contributions on the dead level of mediocrity this freshly written and idealistic and "steady and relevantly interpretative" discussion comes as a welcome assurance that education is after all a matter of real life.

John Dewey. *German Philosophy and Politics.* New York: Henry Holt & Co., 1915. Pp. 134.

Professor Dewey here gives lucidly a survey of the philosophical principles which have seeped down into and become the controlling factors in the development of the German nation. He looks into Germany's near and "creative" past rather than into her immediate present for the philosophy underlying her great achievements. He finds the key to his puzzle in Kant's sharply divided worlds of science and sense on the one hand and moral freedom on the other. Pursued literally we have the curious phenomenon of a Bernhardi able to discuss acutely and appreciatively the moral realm of the nation's activity and of the non-moral, non-individual deeds of the state's soldiers (not individuals) as they in the non-moral world carry out the policy of terrorizing. No one who has not already arrived at the conclusion can fail after reading this book to see that the German conception of an organized state comes from Kant and even more from Hegel—even if he has, contrary to Dewey's conclusions, ascribed some of the militaristic attitude of fighting for *Kultur* to the squeaking Nietzsche.

What will most interest the philosophical school man will be Dewey's last chapter in which he contrasts his (and we may infer America's) "radically experimental philosophy" with Germany's *a priori* philosophy based on an *a priori* social constitution, which in turn determines in advance the main activities of classes of individuals. "We must learn from Germany what methodic and organized work means. But instead of confining intelligence to the technical means of realizing ends which are predetermined by the State . . . intelligence must, with us devote itself as well to construction of the ends to be acted upon."

The book, itself, must be read. No brief account can adequately suggest how clearly Professor Dewey, with the aid of abundance of historical illustrations, traces German thought and German political and institutional developments to the present stage, where the idea of manifest destiny is the all-controlling thought of all her subjects. Reiterations of the conviction that the philosophy of America must be a courageous philosophy of the future suggests that it would be well to have some articulation of our philosophy of education, if there is to be any distinctive American philosophy of education rooted in our democratic civilization. We cannot borrow foreign educational systems, neither can we borrow the fundamental principles which are to underlie our own system.

BENJAMIN DUMVILLE. *Child Mind.* Baltimore: Warwick and York, Inc. Pp. vi, 214. Price 85 cents.

This is a briefer and more popular treatment of the author's larger book, *The Fundamentals of Psychology.* The author here varies the usual order somewhat in treating habit and instinct together in a chapter following his discussion of the higher mental processes. The next three chapters outline "The Stages of Child Development" and discuss the subject of economy of attention, fatigue, memory, and formal training. The next and last chapter is devoted to methods of dealing with sub-normal and super-normal children.

A list of questions is attached to each chapter, without which the author asserts that the book, as a text, is practically valueless. This is evidently an overestimation of the importance of a formal device which many would rate as, itself, worse than valueless.

HAROLD W. FOGHT. *Efficiency and Preparation of Rural School Teachers.* Bulletin No. 49, United States Bureau of Education. Washington, Government Printing Office, 1915. Pp. 54.

Helpful as are most of the author's writings on problems of rural education.

M. E. HAGGERTY. *Arithmetic: A Co-operative Study in Educational Measurements.* Indiana University Bulletin, Vol. XII, No. 18, Bloomington. 1915. Pp. 387–507. $0.50.

In May, 1914, the Courtis Arithmetic Tests, Series B, were given in Grades V to VIII of twenty Indiana city school systems. The results were sent to the Psychological Laboratory of Indiana University, where they were studied and arranged in comparative tables and charts. The University has issued a pamphlet covering the results of this study under the title "Arithmetic: A Co-operative Study in Educational Measurement." The following list of contents will give an idea of the scope of the study:

Introduction. Part I. A comparative study of twenty Indiana cities.—Tests and methods. Cities co-operating. Results, tables. Results, graphs. Median scores. Specific character of habits. Variability. Dependability. Part II. Courtis tests as instrument of research: time of beginning arithmetic and time devoted to arithmetic.—General considerations. A. Time of beginning arithmetic. B. Time devoted to arithmetic. Indiana standard chart. Conclusion.

This pamphlet comprises 123 pages, and contains 53 tables and 57 figures. The tables and figures show three measures of the efficiency of the work in arithmetic, the median scores, the per cent. of dependability, and the per cent. of variability within the classes. Particularly important for persons who wish to make comparative studies is figure 49 which gives in a graphic form the averages of Indiana pupils in the several grades. This figure is called the Indiana Standard and is so arranged that the results from any class, school, or city can be graphed upon it, thus affording a quick visual comparison.

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EDUCATIONAL
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Symposium on Why the School Administrator Should Have a Philosophy of Education and the Nature of this Philosophy

What Philosophy Is, According to William James*

"LIMITED by the omission of the special sciences, the name of philosophy has come more and more to denote ideas of universal scope exclusively. The principles of explanation that underlie all things without exception, the elements common to gods and men and animals and stones, the first *whence* and the last *whither* of the whole cosmic procession, the conditions of all knowing, and the most general rules of human action—these furnish the problems commonly deemed philosophic *par excellence;* and the philosopher is the man who finds the most to say about them. Philosophy is defined in the usual scholastic textbooks as 'the knowledge of things in general by their ultimate causes, so far as natural reason can attain to such knowledge.' This means that explanation of the universe at large, not description of its details, is what philosophy must aim at; and so it happens that a view of anything is termed philosophic just in proportion as it is broad and connected with other views, and as it uses principles not proximate, or intermediate, but ultimate and all-embracing, to justify itself. Any very sweeping view of the world is a philosophy in this sense, even though it may be a vague one. It is a *Weltanschauung*, an intellectualized attitude towards life. Professor Dewey well describes the constitution of all the philosophies that actually exist, when he says that philosophy expresses a certain attitude, purpose and temper of conjoined intellect and will, rather than a discipline whose boundaries can be neatly marked off.

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*See William James: Some Problems of Philosophy, pp. 4-ff (selected by the editor.)

"To know the chief rival attitudes towards life, as the history of human thinking has developed them, and to have heard some of the reasons they can give for themselves, ought to be considered an essential part of liberal education. Philosophy, indeed, in one sense of the term is only a compendious name for the spirit in education which the word 'college' stands for in America. Things can be taught in dry dogmatic ways or in a philosophic way. At a technical school a man may grow into a first-rate instrument for doing a certain job, but he may miss all the graciousness of mind suggested by the term liberal culture. He may remain a cad, and not a gentleman, intellectually pinned down to his one narrow subject, literal, unable to suppose anything different from what he has seen, without imagination, atmosphere, or mental perspective.

"Philosophy, beginning in wonder, as Plato and Aristotle said, is able to fancy everything different from what it is. It sees the familiar as if it were strange, and the strange as if it were familiar. It can take things up and lay them down again. Its mind is full of air that plays round every subject. It rouses us from our native dogmatic slumber and breaks up our caked prejudices. Historically it has always been a sort of fecundation of four different human interests, science, poetry, religion, and logic, by one another. It has sought by hard reasoning for results emotionally valuable. To have some contact with it, to catch its influence, is thus good for both literary and scientific students. By its poetry it appeals to literary minds; but its logic stiffens them up and remedies their softness. By its logic it appeals to the scientific; but softens them by its other aspects, and saves them from too dry a technicality. Both types of student ought to get from philosophy a livelier spirit, more air, more mental background. 'Hast any philosophy in thee, Shepherd?'—this question of Touchstone's is the one with which men should always meet one another. A man with no philosophy in him is the most inauspicious and unprofitable of all possible social mates.

"I say nothing in all this of what may be called the gymnastic use of philosophic study, the purely intellectual power gained by defining the high and abstract concepts of the philosopher, and discriminating between them. * * * * * *

"Until a comparatively recent time, philosophy was taught in our colleges under the name of 'mental and moral philosophy,' or 'philosophy of the human mind,' exclusively, to distinguish it from 'natural philosophy.'

"But the older tradition is the better as well as the completer one. To know the actual peculiarities of the world we are born into is surely as important as to know what makes worlds anyhow abstractly possible. Yet this latter knowledge has been treated by many since Kant's time as the only knowledge worthy of being called philosophical. Common men feel the question 'What is Nature like?' to be as meritorious as the Kantian question 'How is Nature possible?' So philosophy, in order not to lose human respect, must take some notice of the actual constitution of reality. There are signs today of a return to the more objective tradition.

"Philosophy in the full sense is only *man thinking*, thinking about generalities rather than about particulars. But whether about generalities or particulars, man thinks always by the same methods. He observes, discriminates, generalizes, classifies, looks for causes, traces analogies, and makes hypotheses. Philosophy, taken as something distinct from science or from practical affairs, follows no method peculiar to itself. All our thinking today has evolved gradually out of primitive human thought, and the only really important changes that have come over its manner (as distinguished from the matters in which it believes) are a greater hesitancy in asserting its convictions, and the habit of seeking verification for them whenever it can."

George Santayana on Philosophical Heresy*

"SYSTEMS of philosophy are the work of individuals. Even when a school is formed it prevails only in certain nations for a certain time, and unless the expression of dissent is suppressed by force, the dominant school even then is challenged by other schools no less plausible and sincere. Viewed from a sufficient distance, all systems of philosophy are seen to be personal, temperamental, accidental, and premature. They treat partial knowledge as if it were total knowledge: they take peripheral facts for central and typical facts: they confuse the grammar of human expression, in language, logic, or moral estimation, with the substantial structure of things. In a word, they are human heresies." * * * * "The background of philosophical systems, the orthodoxy round which their heresies play, is no private or closed body of doctrine. It is merely the current imagination and good sense of mankind—something traditional, conventional, incoherent, and largely erroneous, like the assumptions of a man who has never reflected, yet something ingenuous, practically acceptable, fundamentally sound, and capable of correcting its own innocent errors. There is a knowledge which common life brings even to savages and which study, exploration, and the arts can clarify and make more precise; and this all men share in proportion to their competence and intelligence, no matter what philosophies or religions may fill their heads at the same time." * * * * * * "It lies (method of becoming a philosopher without becoming a heretic) in confessing that a system of philosophy is a personal work of art which gives a special unity to some chance vista in the cosmic labyrinth,* * * * yet* * * * it should substitute the pursuit of sincerity for the pursuit of omniscience."* * *"We should cease to hear of the absolute life of thought, in which everything was thoroughly significant and thoroughly pathological. Knowledge might really advance and accumulate, because there would be a world for it to discover, and progress might be real just because in view of its fixed and natural goal, it would not be inevitable, constant, or endless. The naturalistic conception of what philosophy is and can be, of how it strays and is tested, would then be restored by general consent, as indeed it should be; for it is the plain deliverance of a long and general experience."

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* See Journal of Philosophy, Psychology and Scientific Methods, Vol. 12, No. 21, Oct. 13, 1915, pp. 561–568—Article by George Santayana, entitled "Philosophical Heresy."

The School Administrator's Need of a Philosophy of Education

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"THE true education," says Herbert Spencer, "is practicable only to the true philosopher." As that is the kind of education which we are in search of and the only kind we want to practise we must make an effort to find out on what terms we can practise it. Some folks say that we are not ready for a philosophy of education, yet, that we must make statistical studies and measure results of instruction for some years more before we can construct a philosophy of what we are doing. No mistake could be greater. We can't get along without a philosophy. The very people who say that we are not yet ready for a philosophy have a philosophy which seems to them to justify the things which they do. Everyone of us has one, for the strangest thing about philosophy is that no one can do without it, and whether he recognizes its presence or not it is nevertheless there guiding and directing him in all that he consciously does. No one of us indeed has the slightest option about having or not having a philosophy. But we do have an option as to the kind of philosophy we shall have. The one which is carefully made, into the construction of which thought and effort have gone, is apt to be more thorough going and reliable than the one which comes of itself, which its possessor has never attempted to check up and test in any way.

Everyone who teaches has either a conscious or an unconscious philosophy of what teaching is for and what the teacher should or should not do, which guides and directs him in his work. Ask any teacher or school superintendent what it is that he is trying to do and he will tell you he is keeping school, or hearing lessons in this or that textbook, or giving instruction in this or that subject, or imparting knowledge, or disciplining minds, or preparing children to be citizens, or making moral men and women of them. Everyone of us from the humblest to the proudest has some aims toward which he points his work, has some sort of a general notion of what it is he is trying to accomplish. Even the most routinary of teachers cannot get along without setting up some kind of a target. Now the target which he sets up, the purpose which he attempts to serve and the reasons which he gives himself for serving it are his philosophy of education. All education is constructive, is building. It attempts to put things like arithmetic or spelling and children together so as to produce a certain result. It cannot proceed without plans and in the making of these plans a good many notions are taken for granted which really call for very profound study.

Every child is compelled by law to go to school for a term of years. If the superintendent who directs his education and the teachers who instruct him have clear and thorough notions of what it is that they can and should do for him their influence will be a means of strength to him as long as he lives. But if they are only educational tinkers they will cause him to hate the very things he should have learned to love and will not only rob him of his school years but will misshape him for all time. Because the material which we work with is at once so precious and so subject to distortion it is of the highest importance that the nature of our craftmanship be understood.

It has long been known that the human mind has a singular proneness to delusion. One form which that weakness took in past time was the making of idols and the worshipping of the creations of men's hands. The race has not gotten over that tendency though its idolatry is now of a more immaterial kind than formerly. We rarely prostrate ourselves before images of wood and stone nowadays but we do have the habit of bowing down to those other human creations which we call science, literature, history, art, language, etc. We tend to think of them as more real than living folks and to attribute to them mysteries and wonder working powers. The first effort of the philosophy of education is to force us to distinguish real things from things which are only apparently real. It finds that what we call things are associated activities or grouped meanings due to our own nature rather than to the independent existence of a world of fixed unchanging objects. That if our nature were different our notions of the universe would be different. That what we call knowledge is not "a double of that which is," but our ways of handling our own experiences and making them come out as we want them to. That knowledge is not an end in itself but a means to life. That it does not exist for its own sake but for man's sake so that we have no right to tell our students to seek knowledge for the sake of knowledge, science for the sake of science or art for the sake of art for our interest in all of these is not for their own sake but for the sake of human beings. The teacher who has allowed the purifying wind of criticism to blow in his own mind will never be guilty of mistaking the means for the end or of regarding the subjects which he teaches—arithmetic, science, literature, etc.—as comparable in worth or importance with the live souls he instructs. He will not hypostatize either the sciences or the virtues and require his students to perform liturgical mental prostrations before his idols. He will say these forms of knowledge are nothing but ways in which the minds of men have learned to work in order to live advantageously here. The question is not what they will do for you but what you can do with them. You are not here to learn arithmetic or history or science or literature. You are here to become your own arithmetician, to learn habitually to think historically, to yourself see the value of and make your own the method of working which is called scientific, and to catch from literature the insight of the spirit which ever discerns the uncommonness of the commonplace. All the studies which we teach are *ing* studies. There is no such thing as knowledge unmixed with volition. There are no lessons which we learn just for the sake of learning them. The only claim which they can possibly have upon us is that we cannot live without using them.

"The philosopher is a hunter." He is always hunting for the reasons for things. Unless the superintendent and the teacher hunt for the reasons for teaching the young this, that, and the other subject, which we require them to study, their schools will inevitably be machine shops in which human beings are sawed and planed and drilled to preconceived lengths and thicknesses and designs. Education is a life saving not a soul destroying undertaking. The person who would save and augment human energy by means of studies must worry himself a great deal over the meaning of certain words which he is constantly forced to use such as *knowledge, truth* and *education.* No one can build a house without first deciding what kind of a house he means to build. No one can make his plans for a journey without first determining where he is going. Just so no one can help another to build an intellectual or moral character without first deciding what sort of a character he will try to help him to build or upon what sort of a journey he will attempt to guide his pupil. ✓

There is a great advantage in considering first things first. The person who decides what sort of a house he intends to build will know at once what sort of helpers he must employ to assist him. The person who knows where he is going is ready to figure out the details of his journey. And the person who knows what education is has already more than half solved the problem of what the course of study must contain and what methods of teaching must be employed. But until he decides what his aim or purpose is he cannot possibly do anything but fumble. If your view is that knowledge is the thing which we are after you will shape your course of study and your selection of text books and methods of teaching to that end. And at once you will find yourself in an open boat adrift in a wide sea of confusion, for so many things go by the name of knowledge that your schools will be like a grab-bag into which one thrusts his hand and pulls out no one knows what. Take the teaching of spelling for example. If we say that we teach spelling for the sake of a knowledge of spelling which of the 400,000 words more or less in the English language should we teach children to spell? One word is just as real as another from that standpoint, so if we take the view that spelling is for the sake of spelling we should teach them all. If you teach a language for the sake of a knowledge of the language there is so much that goes by that name that you can do all kinds of things and get all kinds of results under that caption. The same is true of literature and history and science and even of mathematics. True teaching consists in selecting from the vast welter of facts which belong to every subject that little part which is indispensable to the student. Our first duty is to make that selection in the case of everything we teach. Nothing but an adequate notion of the aim or purpose of education will enable us to make it. Now after the subject matter of instruction has been thus carefully determined comes the question of method of teaching. The confusion which obtains in regard to it is hardly less than the confusion about what should be taught. There are many different aims which dictate this, that and the other method. Many teachers proceed to "impart knowledge" though knowledge simply cannot be imparted but must be made by each one of us for himself. In spite of the heavy attacks which have crumbled the fortress of formal discipline the bulk of us who teach still talk and act as though it stood intact and firm as ever. A firm grasp of the meaning of education is indispensable to lead us to a comprehension of the methods which must be employed.

No amount of statistical study will tell us what the nature of our undertaking is. Statistics deal with facts. Education depends on purposes. Measurement will help us to determine what we have but philosophy alone will tell us what we ought to have and what we must lay hold of facts and force them to produce for us.

Recent Developments of Scientific Method in the Field of Education, or the Present Need of a Philosophical View-point in Education

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A GREAT change has occurred in the method of educational thought in the last decade and even in the last five years. Educational problems were formerly approached by a method largely deductive. The principles on which the students of education reasoned were derived from other fields of knowledge, especially from philosophy, psychology, sociology, and biology. The best of the educational thinkers did much fine interpretative work in applying these principles to educational situations. It is well known that those who gave us the most suggestive and valuable interpretations were the men and women of broad and keen insight into real educational work, persons who were in more or less direct contact with some sort of concrete educational efforts. In other words they interpreted their rich concrete experience by means of their equally rich and profound appreciation of scientific and philosophical principles.

Gradually, at first, but with increasing force came the impulse and the demand for a science of education that might stand on its own feet. The deductive method fell into disfavor and we are finding ourselves more and more relying upon an inductive method of approach to educational problems. The change in method has brought a change in the type of problems that are investigated. They are more specific, have more to do with details, are less high sounding and have less to do with the "eternal verities" and the "ultimate end of education." Concrete educational situations of every conceivable type have been studied for every possible generalization. There can be no question of the general soundness of this new method in education. That it will grow to even greater proportions is inevitable. It is the basis of all sound educational progress but it has dangers which should be carefully guarded against. The first and most serious danger is that in our eagerness to let the "facts" lead us, we may come to have too little regard for "guiding principles" of any sort. An inductive study can be made only on the basis of some sort of a background of principles. One's experience may be crude and inadequate and in that case one's interpretations of facts will almost certainly be inadequate. It is obvious that the value of an induction depends absolutely upon the quality of mind and the type of training and experience of the person who makes it. The vice of the old education was that it adhered too much to various *a priori* systems of philosophy and paid too little attention to facts. The danger of the new education is that it shall reject all philosophy and be merely empirical. By *merely empirical* I mean that it shall imagine that it has *no* philosophy when it will in all probability have a crude philosophy of more or less vicious tendencies just because it is uncriticized and naïve. Better a somewhat bad philosophy which one knows he has and is constantly working over than the delusion of having no philosophy at all. A philosophy we all have and must have and, whether it is a human frailty or not, we should frankly face the fact because it is safer to recognize than to ignore it. All sound development of inductive science and of philosophy has been reciprocal. The one is impossible without the other. They do and must go hand in hand.

The first disciples of the inductive method in education were experts who turned to the detailed study of concrete facts presented by educational situations because they had insistent problems to solve, and they saw only one way to do it. The significant thing was that they went to the "facts" with *problems* and not with vacant minds. The next step was probably related to the ever present situation of student training. The development of education as a science has to a very large extent been related to the process of initiating students into educational problems and methods. The questions which have tended to attract the young investigators have been largely those of a somewhat limited nature, such as would fit in conveniently with the two or three years of time which the student expected to devote to his professional preparation. Much valuable work has of course been done in this way. Young men and women have thus gained the scientific point of view and under the guidance of experienced leaders they have found out many things that are significant for the new science of education.

The above procedure has, however, led inevitably to a thoroughly scattered and fragmentary educational literature. Such a condition is not in itself bad if it can finally be organized so that we may know where we are and whither we are tending. Just now we are confronted with multitudes of miscroscopic and incomplete studies, and it is an open question as to whether we are getting anywhere or not. These detailed and somewhat limited studies we must of course have but must have with them some of the best out of the older and now despised philosophical attitudes if we are to escape a chaos of inanities.

Another danger of the new method has developed within the very practice of the method itself. The scientific experiment in education is necessarily very complicated and the conditions are often difficult to control in the way they should be to insure ideal results. This difficulty inherent in the educational experiment in its best sense has led to a considerable over-emphasis of educational statistics in the professional training of the educational specialist. The idea has apparently been that this type of work furnishes in more accessible form some experience in the modern inductive method. The intricacies of nice experimentation have, therefore, yielded too often to the clerical task of working out statistical tables and determining relationships and central tendencies of a somewhat hazy character, and questionable value. This does not mean that we do not need educational statistics or that they do not often have far-reaching significance. My point is rather that the determination of a central tendency or the computing of a coefficient of correlation must often be regarded as essentially preliminary to more exact experimental research.

Statistics such as the following have been gathered under the guise of educational research: The extent to which various practices have or do prevail in many different sorts of educational situations, opinions of school men and others on all sorts of educational problems, the opinions of school children on various subjects, their estimates as to how they spend their time or their money, how they get their lessons, what they read, what they play, etc., conditions in school plants, salaries, tenure, educational preparation, methods of promotion, are illustrative of much that has been gathered and is being gathered by questionnaires. It will be freely admitted that many of these inquiries are worth making. The point I wish to make here is that such studies claim too much attention. The main demand made by them upon the student is of a clerical nature rather than that of careful scientific thinking.

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It is obvious that material of the sort listed above is fairly easy to obtain and the opportunity afforded for tabulation and practice in various elementary operations is of course good. All of this is well and good if the student and his instructor do not forget the definite limitations of such an investigation. There is, for instance, the error due to the inaccuracy of the respondents. Suppose there are gathered from 1000 superintendents their opinions as to the best age to enter school. The central tendency of these opinions might be interesting but it would throw no light upon the real problem involved. The value of the combined answers would not rise above the merit of the individual opinions. If these are the opinions of experts, each based on long and careful study with accurate methods of determining the effect of entering school at various ages, the 1000 opinions would be decidedly interesting. We should even feel that a dozen such expert opinions would pretty definitely settle the question. But 1000 answers or 10,000 answers would be no better than a score if they are mere unsupported opinions, snap judgments, tossed off on the spur of the moment. It would be interesting to learn, if it can be determined without too much trouble, what the 1000 superintendents think on the subject but it is not even the first step in the real experimental investigation which must be based on a comprehensive study of social and economic conditions, mental and physical measurements of the results under different types of educational conditions, to mention only some of the more obvious aspects of the problem.

Perhaps no one would attempt to study this question by the statistical study of one thousand answers or opinions. But at least, I may thus illustrate my point. What is needed is not less study of facts or less statistics but a larger grasp of educational problems, more interpretative ability, more scientific imagination, in short thinkers who dominate their method and their figures instead of being carried away by them. The gravest need among our graduate students today is, to my mind, the willingness as well as the determination to become acquainted with a sufficiently wide range of facts and of interpretations to have a sufficient background for fruitful independent thinking. In other words they need to build up a genuine philosophy of education as well as technique in experimentation and statistical method.

The Application of Ontologies to Education

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A WORD of explanation, perhaps apology, is necessary at the outset. Philosophy today plays very little part in educational thinking. Very few of the multitude of books on educational principles go beyond the social point of view. MacVannel and Dewey are the only well-known philosophical thinkers I can just now recall in our country, since the death of W. T. Harris, among those working in the field of education. Our best historian of modern elementary education, Parker, goes so far as to present Rousseau, Pestalozzi, Herbart, Froebel, and Spencer apart from their philosophy, though admitting, for example, in the case of Froebel that he "probably viewed his educational theories to a considerable extent from his fundamental philosophy, and they were consistent with it."

Such a tendency to omit philosophy in educational thinking must be regarded as deplorable. Philosophy may be guessing, but man pins his faith to certain guesses, and lives thereby and educates thereby. Which guess is best is a philosophical question. Philosophy has the last word in educational theory as in life. And some philosophy we have, whether we recognize it or not. There is no real substitute for ultimate thinking in education or in life.

But I desire not to argue, rather to illustrate.

Let us consider the application of the ontologies to education. Ontology is a theory of the nature of the world. Its question is, what is the being of the world? There are several answers.

In our procedure we will use the deductive mode of approach, passing from the ontologies to their educational applications. Not that the ontologies themselves have made these. It would also be possible and desirable to use the inductive procedure and pass from a treatment of educational facts to their significance for ontology.

There being many answers to the ontological question, we will take for discussion the four standard ones treated in Royce's "World and Individual," Vol. 1. These are named Realism, Mysticism, Critical Rationalism, and Idealism. Informed readers will note that Royce's discussion of the ontologies is largely from the standpoint of knowledge, that is, epistemology.

Realism as an ontology asserts that the real world is independent of all experience of it. Ideas make no difference to the objects they know. Not merely some, but all, reality exists independent of sensation and thought. As a philosophy of life realism is without a clear recognition of God, without freedom of choice, without immortality, but with moral values grounded in man's desires only, and a bare hope that the mechanism of nature will not in time destroy humanity.

This ontology is particularly interesting in our day because there is now going on a revival of these historic views known as "The New Realism." It will be noted that realism is the opposite of idealism, which holds that the real world is not independent of the experience of it. Also, that the term "realism" has changed its meaning since the days of the mediaeval school men, who held that universal ideas had a real existence apart from the particular things sharing their nature. The central thing for us about realism is that it holds the real world to be independent of all experience. It is materialistic.

What would a realistic philosophy of education be like? The emphasis would be placed upon things rather than ideas; upon science rather than the humanities; upon information rather than development; upon facts rather than personalities; upon the practical and vocational rather than the liberal and cultural; upon the intellectual rather than the esthetic, ethical, and social; upon observation rather than reflection; upon the subjection of the individual to the world-order rather than his independent place in it. The separation of the object and its idea made by realism means that the educational process is not a life process in intimate relationship with all other processes, that the individual is not an essential element in reality, that humanity has no great destiny to fulfil in the world. The ideas of the individual being inefficient, his education must be such as to reconcile him to his secondary position; there is no eternity for him. A realist might disclaim these applications of his philosophy.

An objector to this philosophy writes: "Realism is an empty philosophy for religion or education to me. Nothing, then a bright light for a time, then nothing again; such is its view of the universe." An adherent and expounder of this philosophy writes:

"It (realism) is opposed equally to an idealistic anticipation of the victory of spirit, and to a naturalistic confession of the impotence of spirit" (Perry, Present Philosophical Tendencies, p. 347).

Passing to the ontology of mysticism, we find that it defines the real world as content of an ineffable experience. Reality is to be felt, but not described in terms of ideas. Mysticism thus appears as a reaction against the hopelessness of knowledge on a realistic basis. Ideas cannot reach the independent reality, said realism; but feelings can, says mysticism. Not by thinking nor by conduct is the finite soul one with the infinite, but by an emotional ecstasy. The infinite is an impersonal essence, lacking in both the distinctness and the self-completeness necessary for moral personality. One thinks of Brahminism as an illustration of this pantheistic ontology.

What would be the mystic's philosophy of education? Evidently mysticism emphasizes the emotional and vaguely spiritual aspects of education. The informational, practical, vocational, and ethical aspects of education are subordinated. The veil of illusion being over all intellectual distinctions, education neglects science and history, and is not to be regarded as a real social process in intimate relations with other processes. Education is not a biological, psychological, or social process of growth, but strictly individualistic in putting off the things of flesh and intellect by purification and illumination. Yet the end of this process is not the survival but loss of individuality in the universal unity. In method it emphasizes not observation but meditation. In short, education is the process of the soul's emancipation from the round of existence. Realism subordinates the finite soul to an external factual order; mysticism subordinates the external order to the universal essence of which the finite soul is a part. Realistic education bids the soul look without; mystical education bids the soul look within. Historic India has illustrated this type of philosophy and education.

The third ontology, Critical Rationalism, is essentially Kant's intellectual position. It modestly holds that the real world for us is not independent of all experience nor yet the content of an ineffable experience, but the content of possible experience. Real is that order which you could experience under certain circumstances, *e. g.*, John Stuart Mill defined matter as the permanent possibility of sensation. Thus critical rationalism emphasizes universals, laws, and principles as real, not individuals who are unique. The real is the true and the valid. With realism, the emphasis is on the intellectual, but the real for us is not independent altogether of our ideas concerning it.

Educationally, Critical Rationalism would emphasize the process of intellectual growth, good reasoning and good habits of thought. In subordinating the particular to the general, it would care more for training than for the vocational or practical element. Everywhere it demands proof and validity. It is the scientific emphasis, every classroom being a laboratory. Education as conformity with the moral law would be ethical, but the emphasis is not placed on individuality so much as on legality. The esthetic and the emotional have little place. Education introduces one to what is, or can be, experienced. One's philosophy of education can reject either realism or mysticism but it is not likely to reject altogether Critical Rationalism.

Lastly, Idealism as an ontology defines the real world as the content of an Absolute experience. Idealism is a synthetic or organic philosophy; it tries to do justice to the demands of the other philosophies. With Realism it would allow that the whole is mostly, though not entirely, independent of the part; with Mysticism that the whole can be approached through feeling, but not exclusively so; with Critical Rationalism that the whole contains laws and principles but individuality also. The essential principle of Idealism is that whatever is, is known; not indeed to the finite, but to the Absolute knower. The function of the finite is to approach the infinite, which is sufficiently distinct and self-completed to be regarded as a moral person. Idealism finds the universe throughout an expression or embodiment of mind or spirit.

Its philosophy of education? The widest possible curriculum is available to adjust man to his divine environment. Education is the perfecting of humanity in the image of divinity. The educational process is a part of the life process, which, when right, is the growth of the person in God toward God. Right thinking, feeling, and acting are all good means for bringing man nearer his goal. Individuality as the union of ideas and purposes is conserved in the whole. Children are to be respected as potentially divine, the teacher is a co-laborer with God, there is spiritual vision for education and for life. Vocational education as developmental and creative, not merely commercial, also finds its legitimate place here. The idealistic philosophy of education offers us not the subjected living of Realism, nor the ecstatic living of mysticism, nor the scientific living of Critical Rationalism, but complete living. Education is the continuous perfecting of society and the individual.

Which ontology and which philosophy of education will you choose? The answer to this question one can leave alone or think out for himself,—he cannot borrow it from another.

A Comparison of the Writing, Spelling and Arithmetic Abilities of Country and City Children

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NUMEROUS studies have been made showing the handicaps under which the rural teacher works.[1] Some of these investigations have made comparisons of existing conditions in town or city schools with those of the one-room country school and the comparison has always been wholly to the disadvantage of the rural school.[2] The rural schools generally have shorter terms, more irregular attendance, poorly trained and inexperienced teachers, frequent shifting of teachers, short and numerous recitation periods, poorly organized and overcrowded courses of study, and little or no supervision.

There are some persons, however, notwithstanding these unfavorable conditions, who claim that the pupils of the rural schools do better work than pupils of the city schools. The statement is frequently made that the country pupils who go on to city high schools do better work there than the children of city dwellers. Such conclusions in the light of present knowledge seem to be more or less fallacious.

It was to disprove or substantiate such statements as the above that the present study was undertaken. A few investigations have been conducted which tend to show scientifically that pupils of the one-room country schools rank lower in achievement than do pupils of the same grade and standing in the city schools. E. H. Taylor,[3] using the Courtis Arithmetic Tests, found that rural pupils ranked about two school grades below pupils of the same grades in city schools. The Ohio State Survey Committee found that average standings in writing, composition, and arithmetic of country pupils were almost uniformly below those of city pupils.[4] A comparison of the standings in all subjects of eighth grade pupils in the rural schools with those of pupils of the same grade in the city schools in the New Jersey State final examinations for graduation, shows that rural pupils rank lower in all subjects than do city pupils.[5] E. J. Ashbaugh of the University of Iowa, found that the handwriting of country children was, on the average, of approximately the same quality and was produced at about the same speed as that of city children.[6] The conclusions of all these investigators, except the last, indicate a lower degree of achievement for country pupils than for city children.

The data which furnish the basis for these comparisons were secured as the result of tests given to 359 pupils in twenty-one rural schools in a typical county in Pennsylvania. The subjects covered by the tests were arithmetic, spelling and handwriting. In most cases the tests were given during the latter part of March and the early part of April. The number of pupils taking the tests does not represent the total enrollment in those schools but only those in attendance on the days that the tests were given. The inadequacy of the data as a basis for generalizations is acknowledged.

HANDWRITING

In the writing test the pupils were asked to write as many times as possible in their best writing the sentence: "Washington was called the father of his country." Three minutes were given for the test. The quality of the samples thus secured was determined by comparison with the Ayres scale.

Table I gives the distribution of these papers, grade by grade, on the basis of the quality of the writing.

TABLE I.

	Grades								
Quality	I	II	III	IV	V	VI	VII	VIII	All
10	4								4
20	13	13	6	9	3	3	2	1	50
30	4	8	19	4	5	9	4	1	54
40	3	2	8	11	5	9	10	4	52
50	1	10	10	5	16	14	11	9	76
60		4	5	6	7	6	10	9	47
70		3	9	8	4	4	6	6	40
80				4	5	4	5	9	27
90			1			1	1	6	9
Total	25	40	58	47	45	50	49	45	359
Average	24	38	44	47	51	49	53	64	
Freeman's Average		40	42	46	51	55	59	63	

Freeman's average is based on a study of the quality of handwriting in 56 cities of 30,000 population or over.[7] The averages for country children as shown above are only slightly below this average. In Grade Three the rural average is two points higher than the city average; in all other grades the rural average is lower. This difference, although in favor of the city schools, is too slight to have much weight in discrediting the achievements of the rural pupils. We may, therefore, with justice conclude that the quality of writing of the rural school pupils is approximately the same as that of the pupils of city schools.

But the quality of writing should not be considered without comparing the speed with which the writing was produced. The data bearing on the rate of writing are presented in Table II.

TABLE II.

	Grades								
Letters per minute	I	II	III	IV	V	VI	VII	VIII	All
10	16	6	3	1		2			28
20	4	12	8				1		25
30		4	6	2		2			14
40	3	7	17	3	3	3	1	2	39
50	2	5	7	10	8	7	5	1	45
60		1	3	9	6	8	9	7	43
70		1	6	6	3	4	5	3	28
80		2	3	9	5	11	10	9	49
90		2	3	3	10	7	8	13	46
100			2	2	4	5	4	4	21
110				1	3		3	2	9
120				1	2	1	2	2	8
130					1		1	2	4
Total	25	40	58	47	45	50	49	45	359
Rural Average	18	35	47	65	78	69	78	84	
Freeman's Average		31	44	51	59	63	68	73	

The comparison of the averages in the above table indicates a slightly higher rate of writing throughout the grades of the rural school. Although this is true, this difference is not to be taken as a marked advantage of the rural school pupil over the city pupil. In many instances rural pupils of the first three grades, and frequently in the more advanced grades, were not required to write with pen and ink, consequently their samples were in pencil. It is known that pupils are able to write more rapidly with pencil than with pen. This condition, no doubt, accounts for a part of the difference in speed which appears to favor, but actually does not favor the country pupil.

Charts I and II represent graphically the comparisons discussed above.

SPELLING

In testing the spelling of the rural-school pupils ten-word lists for each grade above the First were selected at random from the Ayres spelling scale.[8] These words were words which seventy-three per cent. of the city children spell correctly. Or, they are words on which the average city child makes 73% in his spelling tests. If the country pupils make 73% on these same words we

CHART I.

Quality of Handwriting.

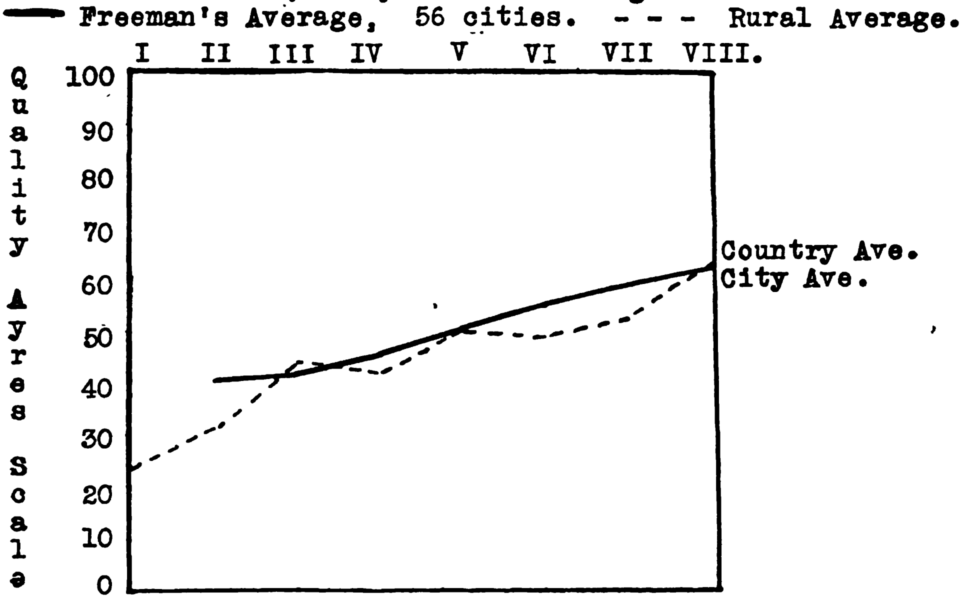
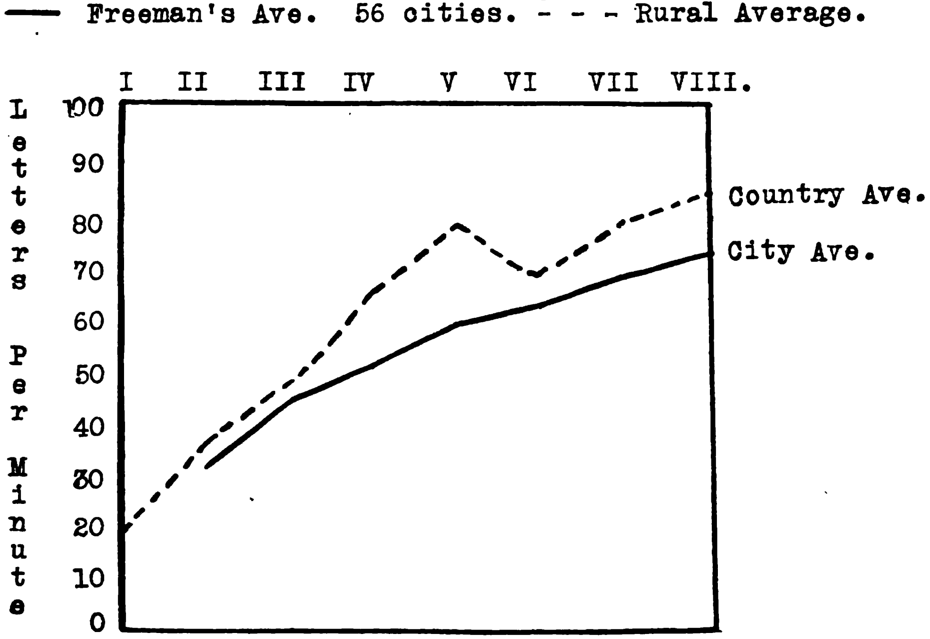


CHART II.

Rate of Handwriting.



may regard them of equal ability with the city pupils. Three hundred thirty-seven pupils took the tests. Of this number eight spelled no words correctly, and forty-four spelled all of them correctly. Table III shows the distribution of spelling papers on the basis of the percentage of words spelled correctly.

TABLE III.

			Grades					
Per cent. correct	II	III	IV	V	VI	VII	VIII	All
0	1	4		2	1			8
10	6	5		2	1	1	1	16
20	1	6	2	2	3	1	2	17
30	2	3	4	2	8	4	5	28
40	3	7	6	4	5	3	4	32
50	4		9	5	3	5	6	32
60	1	6	3	5	6	9	2	32
70	1	6	4	6	7	7	8	39
80	5	9	9	8	3	7	7	48
90	7	5	6	6	7	5	5	41
100	7	12	3	6	5	6	5	44
Totals	38	63	46	48	49	48	45	337
Rural Average	61	59	64	63	59	66	63	
Ayres City Average	73	73	73	73	73	73	73	

A comparison of the above averages shows an advantage of from seven to fourteen words per hundred in favor of the city pupils. The country averages are uniformly lower than the city averages. This is no mere statistical accident. The pupils of the rural schools do not spell as well on written tests as do the children of the city schools. Chart III shows the facts of Table III graphically.

A glance at the above diagram reveals the uniformly low standings of the country pupils. In the light of such evidence one would hardly dare make the statement that the pupils of the rural schools spell better or even as well as the pupils of city schools. Nor should rural people be longer content with an educational situation so unfavorable to their interests. Moreover, it must be remembered that the words used in this test were among the thousand words most frequently used in ordinary writing.

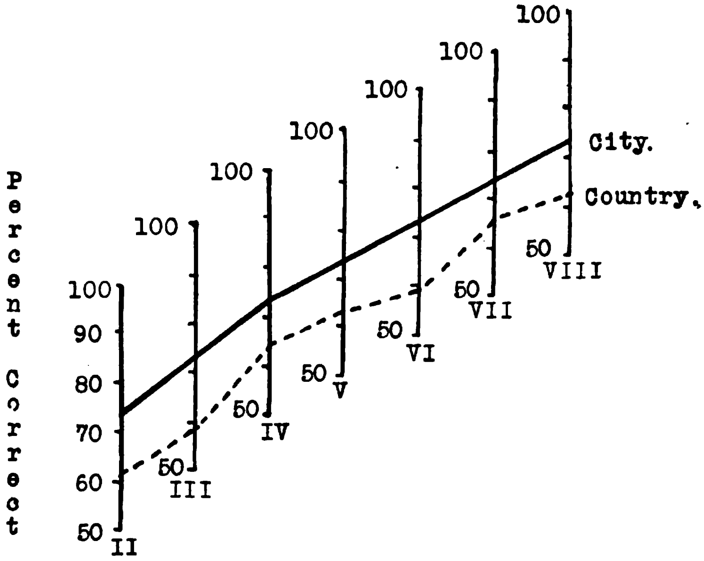
ARITHMETIC

A reasonable degree of facility in the fundamental operations of arithmetic is regarded by everyone as essential in education. A mastery of these operations is as fundamental to the education of the country child as of the city child. Are these two groups of children equally efficient in their manipulations of numbers?

CHART III.

Spelling Ability.

—— Average for 84 Cities. - - - Rural Average.



In gathering the data for making the comparisons in this subject the Courtis Tests, Series B, were used. These tests are lists of problems in Addition, Subtraction, Multiplication, and Division. They are designed to test both the number of problems attempted,—speed, and the number of problems solved correctly,—accuracy. Mr. Courtis has given these tests in a large number of cities and his averages are here used to represent the standing of the city pupils.

TABLE IV.

Grade	Pupils	Addition		Subtraction		Multiplication		Division	
		Ats.	Rts.	Ats.	Rts.	Ats.	Rts.	Ats.	Rts.
III	25	3.7	1.1	3.0	0.8	1.0	0.26	0.5	0.13
IV	46	4.6	1.5	4.8	2.0	3.9	1.2	1.6	0.43
		(6.1)	(3.1)	(6.2)	(3.5)	(4.9)	(1.9)	(3.4)	(1.1)
V	39	6.0	2.5	6.6	3.6	5.6	2.8	3.7	1.9
		(7.6)	(4.5)	(8.1)	(5.9)	(6.4)	(4.0)	(4.9)	(3.0)
VI	50	4.9	1.8	6.7	3.7	5.5	2.5	3.8	1.9
		(8.9)	(5.7)	(9.5)	(6.8)	(7.8)	(5.3)	(6.8)	(5.9)
VII	47	6.7	2.9	8.6	5.6	7.4	4.1	4.7	2.8
		(9.8)	(6.4)	(10.4)	(7.9)	(8.9)	(6.2)	(8.4)	(6.7)
VIII	48	7.7	4.0	9.7	6.9	8.8	5.9	6.6	4.5
		(11.2)	(8.1)	(12.3)	(9.9)	(10.6)	(7.6)	(10.4)	(8.8)

The tests were given to 255 pupils in twenty-one rural schools. The number is smaller in this group because pupils below the Third Grade were not included. The papers were scored both on the basis of number of problems solved and on the basis of correct answers. Table IV shows the median scores for each grade in the four operations. The number of pupils upon which these medians are based is given at the left. The enclosed figures are the median scores for city children as given by Courtis, 1914 tabulations.[9]

The above table should be read,—for the 25 Third Grade pupils the median number of addition problems attempted was 3.7, the number correct was 1.1, and so on. There are no Third Grade medians for city children.

A comparison of the median scores for each grade with those in parentheses just below shows uniformly lower standings for the rural school pupils, in all types of problems and in both speed and accuracy.

It will also be noted that the difference between the city and the country medians increases from the lower to the higher grades. That is,—the scores of the country children tend to fall farther and farther below those of city children as the higher grades are reached. These differences signify less improvement from grade to grade among country children than among city children. This tendency is especially marked in the addition and division scores. Although there is some improvement in both speed and accuracy from grade to grade among rural-school pupils this improvement is much less than among children of the city schools.

Charts IV, V, VI, and VII present the facts of Table IV graphically.

In the above diagrams the uniform drop in the curves for the rural schools at the Sixth Grade is evident. This probably indicates that less attention is being given to drill in the four fundamental operations after the Fifth Grade than is given before this time. Another significant fact is the wider difference between the curves for speed and accuracy in the rural schools than for city schools. The proportion of correct answers is less for rural pupils than for city pupils.

If the standings of any grade of the rural schools be compared with the standings of other grades in the city schools it is possible to determine, in terms of grades, just how far below the city schools the rural schools fall. This comparison is made in Table V.

CHART IV.

Addition

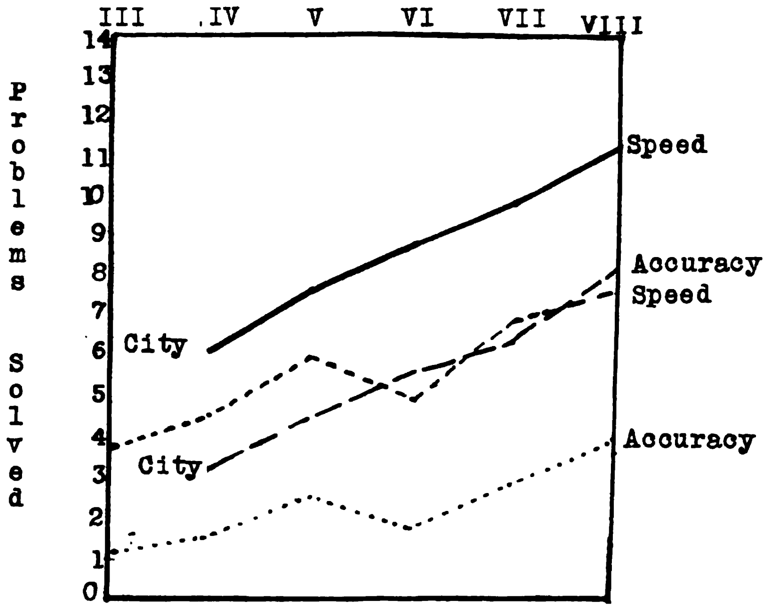


CHART V.

Subtraction.

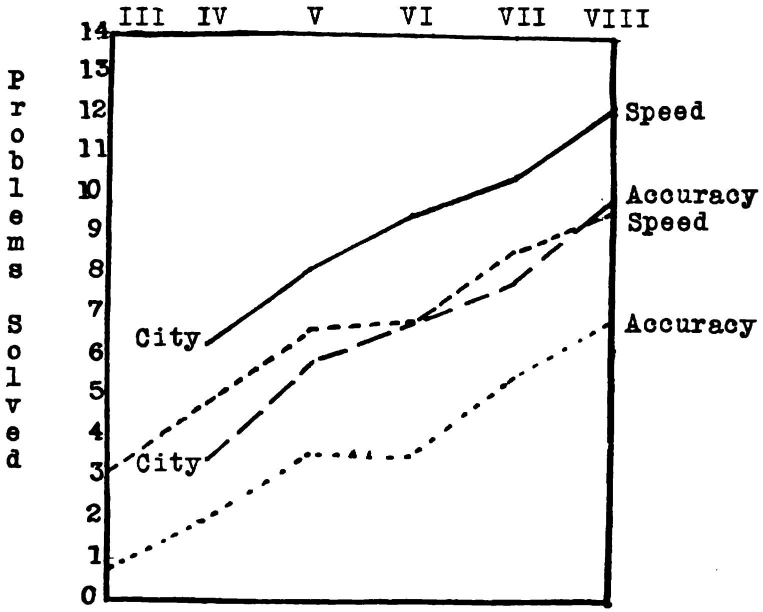


CHART VI.

Multiplication.

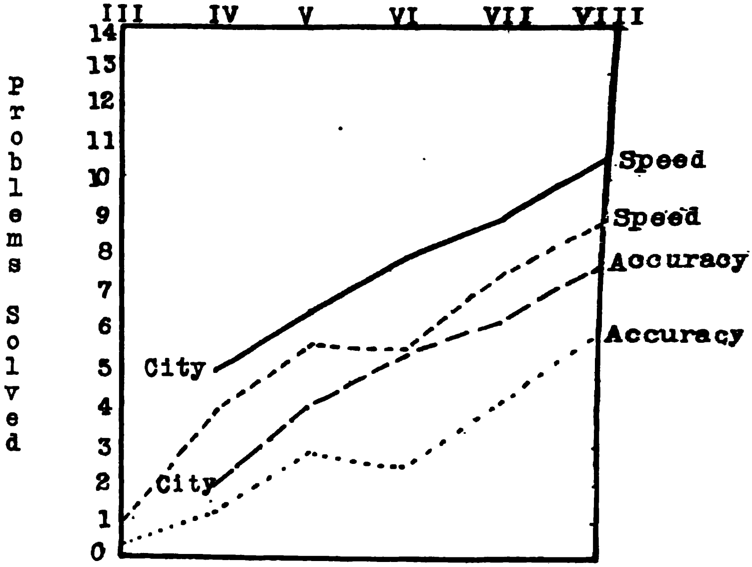


CHART VII.

Division.

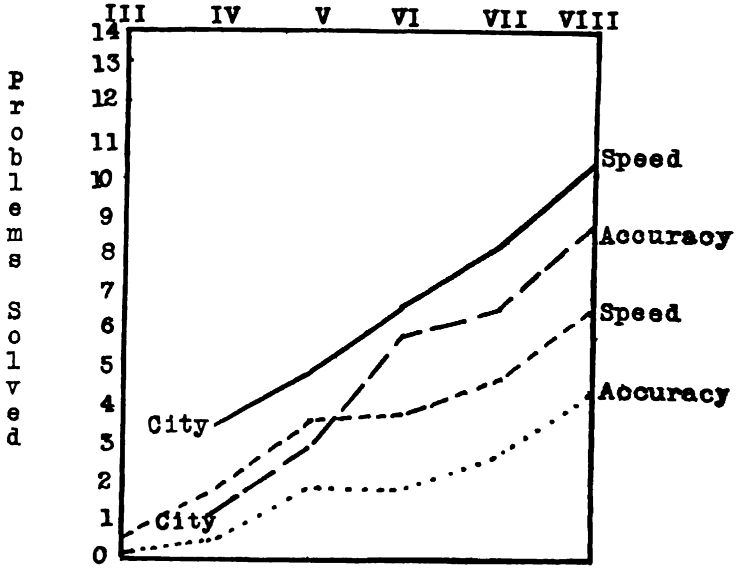


TABLE V.

	Country Medians				City Medians			
	Add.	Subt.	Mult.	Div.	Add.	Subt.	Mult.	Div.
	Problems Attempted							
IV	4.6	4.8	3.9	1.6	6.1	6.2	4.9	3.4
V	6.0	6.6	5.6	3.7	7.6	8.1	6.4	4.9
VI	4.9	6.7	5.5	3.8	8.9	9.5	7.8	6.8
VII	6.7	8.6	7.4	4.7	9.8	10.4	8.9	8.4
VIII	7.7	9.7	8.8	6.6	11.2	12.3	10.6	10.4
	Answers Correct							
IV	1.5	2.0	1.2	0.4	3.1	3.5	1.9	1.1
V	2.5	3.6	2.8	1.9	4.5	5.9	4.0	3.0
VI	1.8	3.7	2.5	1.9	5.7	6.8	5.3	5.9
VII	2.9	5.6	4.1	2.8	6.4	7.9	6.2	6.7
VIII	4.0	6.9	5.9	4.5	8.1	9.9	7.6	8.8

The figures of Table V show that the Fourth Grade city medians approximate those of the Fifth and Sixth Grade country medians; the Fifth Grade city medians, those of the Seventh Grade in the Country; and the Sixth Grade city medians, those of the Eighth Grade in the Country. This is true of both problems attempted and of answers correct. In summarizing one may say that in the fundamental operations of arithmetic the pupils of the rural schools rank approximately two grades below the pupils of the city schools. Charts VIII and IX show this comparison graphically.

In the above charts the signs at the top indicate the four fundamental operations in which the pupils were tested. The figures at the left indicate the number of problems attempted and the number of solutions correct. The figures in the middle of the diagram indicate grades.

OVERAGENESS

The absence of mid-year promotions, irregularity of attendance, and the necessity of reducing the number of recitation periods per day, resulting in poor classification of pupils in the rural schools, undoubtedly tend towards retardation. Whether there are more pupils in the country schools who are too old for their grades than in the city schools is a matter of importance.

The age-grade distribution of 358 rural pupils in the twenty-one schools tested is given in Table VI.

TABLE VI.

Age-Grade Distribution of 358 Rural Children

	Ages														
Grades	6	7	8	9	10	11	12	13	14	15	16	Total	Young	Nor.	Old
I	9	13	2	1								25	0	22	3
II	4	12	15	3	6							40	4	27	9
III		1	13	16	13	6	5	3	1			58	1	29	28
IV				13	14	15	2	2	1	1		48	0	27	21
V			1	7	5	13	10	5	1	2		44	8	18	18
VI				1	7	13	10	10	7	2		50	8	23	19
VII					2	1	13	10	16	3	3	48	3	23	22
VIII						1	9	9	13	11	2	45	10	22	13
Totals	13	26	31	41	47	49	49	39	39	19	5	358	34	191	133

CHART VIII.
Problems Solved.

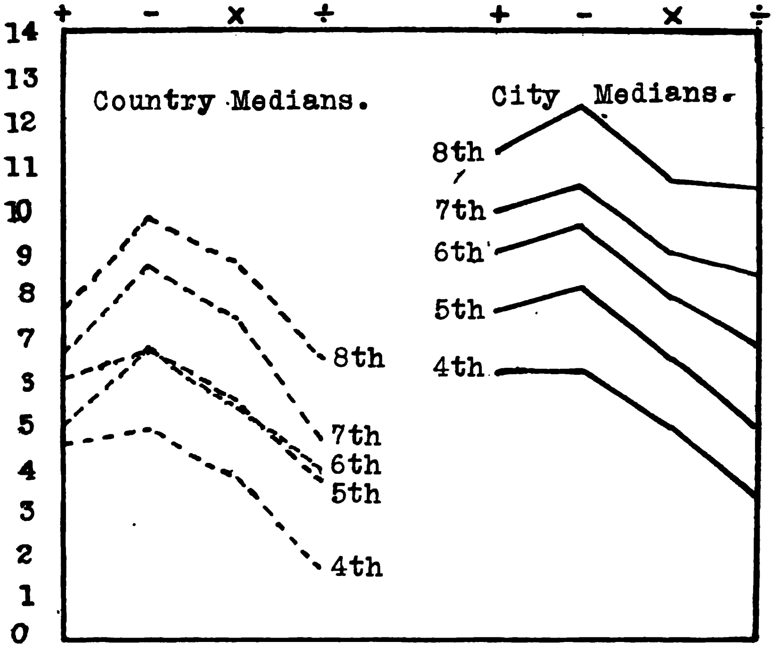
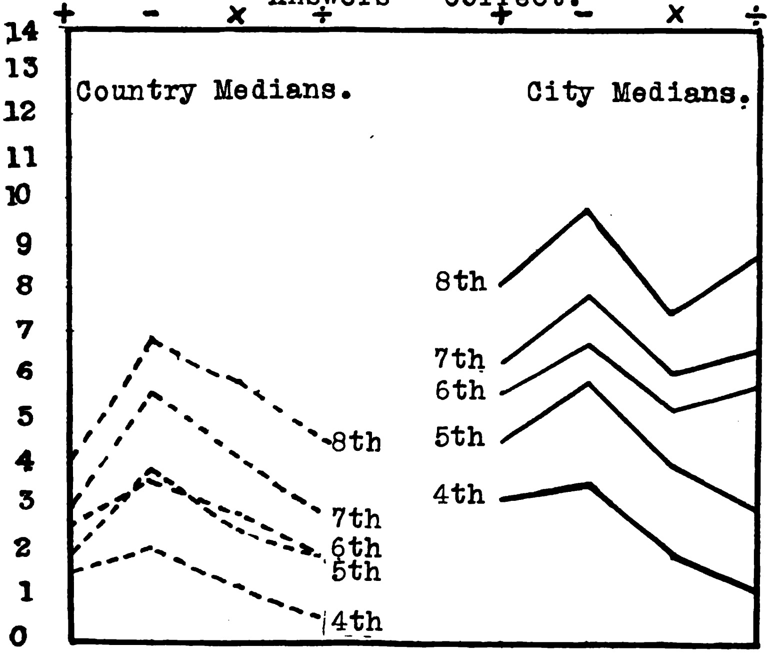


CHART IX.
Answers Correct.

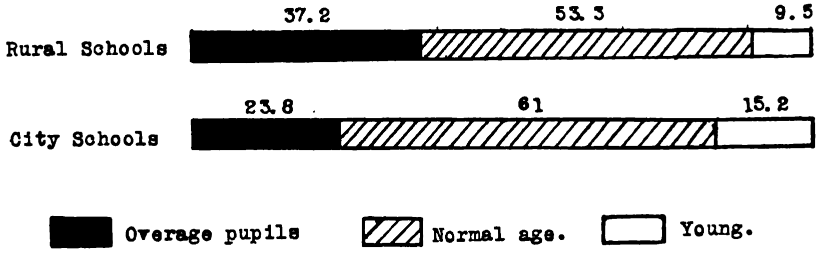


The figures to the left and below the bold-faced figures represent pupils who are young for their grades; those to the right and above the bold-faced figures represent pupils who are old for their grades; the bold-faced figures represent pupils of normal age. The totals for each of these groups are given at the right of the table. The percentage that each group is of the total is as follows: Young, 9.5%; Normal Age, 53.3%; Overage, 37.2%. When compared with the situation in the cities the comparison is, as usual, to the discredit of the rural school.

Comparable figures as published in the annual reports of fourteen typical cities for the year 1914–15 were obtained.[10] The average of these figures was found to be: Young, 15.2%; Normal Age, 61.0%; and Overage, 23.8%. A comparison of these two sets of figures reveals the fact that there are thirteen more pupils per hundred in the rural schools who are overage than are found in the city schools. There is a correspondingly higher percentage of young and normal-age pupils in the city schools. This difference of thirteen per cent is, no doubt, one of the disastrous results of the unfavorable conditions usually found in the rural schools. The above facts are presented graphically in Chart X.

The facts presented in the foregoing tables and diagrams are indicative of results produced under more or less unfavorable conditions. It is not believed that rural children are less capable than city children. Nor is it held that the rural population is less interested in the welfare of its children than are the city dwellers. It was not the purpose of this study to discover the causes which led to the low standing of rural pupils nor even to suggest means of removing some of the unfavorable conditions under which the rural pupil must get his schooling. It was intended to discover only whether rural pupils were excelled by

CHART X.
Age-Grade Distribution of Rural
and City Children Compared.



city pupils and in what respects they were excelled. This has been done in so far as the data at hand bear upon the case. The following statements may be regarded as summaries of the results.

1. The quality of the writing of rural-school pupils is approximately the same as that of city school children of the same grades. The rate at which this writing is produced, however, is from three to nineteen letters per minute higher among country pupils than among city pupils.
2. The spelling of the rural pupil is from seven to fourteen words per hundred below that of city pupils. The rural spelling average is uniformly below that of the city schools.
3. The standings of country children in addition, subtraction, multiplication, and division are approximately two grades below those of city children. The improvement in arithmetic from grade to grade is less for country children than for city children. Accuracy in arithmetic is proportionately lower for country pupils than for city pupils.
4. There is a larger proportion of country children who are old for their grades than there are among the children of city schools.

Within the limitations of this study the above conclusions are valid. They are not to be taken as broad generalizations. They indicate a situation in rural education far inferior to that of the urban schools. If the rural schools are to be brought up to the standards of the city schools, at least some of the means for doing so now in use in city school systems must be employed. Closer supervision, better classification of pupils, more regular attendance, and better teaching can make for equal efficiency in rural and in city schools.

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Meeting the Demand for the Practical in Educational Research

A paper prepared for the Round Table of Directors of Educational Research, Department of Superintendence, National Educational Association, Detroit, Michigan, February 24, 1916.

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Director Division of Educational Research, Public Schools, New Orleans*

WHAT IS PRACTICAL

THEY who demanded from the beginning the practical harassed researchers in chemistry, physics, astronomy or biology. Abundantly practical have been the ultimate results of a score of pioneer studies which were of only academic interest to our learned ancestors, and even unheard of by contemporary multitudes. What seems purely academic, theoretical, or even visionary to one generation or individual may be of demonstrable utility to another. To prove this, one needs only to trace the manufacture and present economic significance of drugs, pure food stuffs, anesthetics, dyes, metals; or of dynamos, motors, telephones and wireless, all electrical devices, the steam engine, specialized factory machines, and the aeroplane; or of modern navigation; or of medicine, surgery, as well as of scientific agriculture. Philosophers easily show the impossibility of limiting rigidly the concept, *practical.* The practical in education is as difficult to define as it is in chemistry or geology. We mean by it generally something that is of immediate use in our mutual betterment. The idea of the practical can easily be degraded to that of expediency, or to subserviency to stronger power for selfish ends. Facts about certain school problems can be of great practical use to boards, superintendents and the people.

MEN OF AFFAIRS EMPLOY RESEARCH

In the presence of proof that a method of efficiency is helpful to all concerned, practical men of affairs are prone to adopt the efficiency method. Initiative in educational research cannot be credited as a rule to those who bother chiefly about units of college entrance requirements, or about protecting the B. A. degree from the contamination of "practical" studies. It is pleasing to contemplate the recent unconditioned employment of good researchers by cities and boards—and by some with a reputation hitherto for political evils in education—a movement that betokens disgust with old methods and a hopeful turning toward the light. It is also a movement that burdens the researcher in the schools with the heavy responsibility that he may not dispel the confidence in his method by inaccuracy or bias, that he may be helpful and constructive, rather than a wrecker without plans of rebuilding.

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TYPICAL DIFFICULTIES OF PRACTICAL RESEARCH

Formal attempts to apply systematically the methods of research to problems of public education are recent, and many difficulties, as of old, arise. The university man or woman with wealth of mental training, information and with a heart to serve through research the children in our public schools, and who plunges into such public service, may encounter discouragements such as these: Incredulity about practical values, problems to be solved too quickly, competitive exploitation of mediocrity, academic scorn from a few pedants and conservers of the narrower collegiate conventions, hostility or jealousies from those who pose as ultra-conservative, and sometimes there appears trickery, or persecution from the political type of pedagogue whether in public or private education, as soon as a measure of personal or professional success is achieved by the worker. It is perhaps only average human nature for some employees of schools to be proud of educational research when any published results of a study reflect upon them credit or prestige—and for them to swell with indignation, caution against "radicalism" and to show pernicious activity, when the truth may reflect disadvantageously upon them. Such trivial difficulties, however, may culminate in financial stress—felt when publications should be made, supplies or instruments purchased, assistants needed, or when the salary budget is made up. Fortunately, the writer knows of no city or state school system where all of these school evils operate simultaneously, and the increasing demand now being answered to remove the schools from partisan politics, brightens the prospect before the competent worker in educational research.

However, it would not be difficult to recite incidents to show that these gloomy difficulties are punctuated with humor in the experience of some researchers. Attractive aspects of the work also appear to the researcher who enjoys, for its own sake, the endeavor to discover the truth, and there is always as an allurement, the vision of multitudes of children who may be helped by the application of facts from a dry monograph.

FOUR ACTIVITIES NEEDED IN PUBLIC SCHOOLS

Educational research is done by universities, or by coöperation of universities and public schools, or by independent foundations, or by public school systems. In small towns and cities it is desirable that the superintendent should be able to conduct routine researches. In the large cities the exacting demands of an executive nature upon the superintendent, and the complexity of the researches demanded, make it necessary for him and the board to relegate the work of research to a special department or bureau. This present paper refers especially to this type of organization.

We believe that if educational research is to be made quickly practical there must be more than the mere getting of facts. There are at least four classes of related activities, or steps, needful to make educational research practical. They are:

(1) The accurate *getting* of the desired facts by researchers.

(2) The careful *consideration* of the facts by boards and by superintendents.

(3) The prompt *publication* of the facts upon mutual agreement of researcher, boards and superintendents for the benefit of the people.

(4) Appropriate *action* where consideration of facts reveals the necessity for remedial action.

A glance at factors in each of these related steps in turn suggests at once why some educational researches have not been productive or practical. *E. g.:*

(1) Chiefly facts, not mere opinions, or amateurish attempts, are desired. Standards of scholarship, training, compensation and contract are essential if men and women of calibre, capable of research, are to do the work of obtaining facts. High grade clerks, bookkeepers, librarians, mere Binet testers—these excellent people are not suitable to determine the essential facts to be sought in a complex school system, or to get the facts by approved methods, or to present them with force. The director of research should be one of the best trained men in a school system. We may look with suspicion and condemnation upon a school department of research which is at bottom a clerkship.

(2) Superintendents and boards have not time even to read all the numerous reports placed upon their desks. Educational

research fails where facts, however painstaking gathered, are not weighed or considered. Brevity and clearness of presentation, and speed in completing a study are necessary lest it become of interest only as local history. If the researcher be competent and the study needful, scarcely anything is of greater importance to superintendents than the research report. Because research work is not an administrative or executive function, therefore impractical will the best efforts become if the report lies idle for weeks, and if the busy members of the board and the people do not realize its content and real import because the report has not been brought properly to their attention.

(3) Mutual agreement upon the part of researcher and superior officer is a working basis for legitimate publicity. The spirit of coöperation, simple fairness, and courage to show the truth where good can be accomplished, are sufficient guides in this difficult question. As a rule the people of the United States are entitled to learn in a wise manner all of the facts about the public schools. General knowledge, rather than general partisanship or prejudice and misinformation, is a powerful lever to effect the practical, after educational researches have been made.

(4) Cautious application or action in our schools upon the basis of research is peculiarly difficult to secure. Most of the work of research is barely begun; hosts of teachers in America are trained to observe a favorite method and rule from which it is difficult to depart; tenure of office of persons who should, but will not, energize a school system, is often prolonged; financial deficits in city or state make impossible the needed action—or else supply an excuse for inaction, indifference or political machination to hold fast to the present status.

Educational research in the public mind will not meet the demand for the practical unless the above four steps of study and action are completed. If educational research should become a farce, or be manned by unequipped persons, whether fledglings or veterans, who may or may not be self deceived, or if it is regarded as an advertising or publicity bureau to boost the school officials and divert attention from live issues, or if accuracy of fact-getting and fact-presentation are impossible—the farce should end, for the same reason that graft should be extirpated wherever it shows itself in the public service. Where educational research is all right, but the three steps to follow are not completed by the careful coöperation of researcher, superintendent, board, and the public reached by reports and the press—in this case there is a situation needlessly impractical and itself deserving study. It would be interesting to diagnose the conditions regarding research in all of our cities, in order to ascertain which one of the four steps or activities are weakest, and the causes involved.

PROBLEMS IN RESEARCH VARY

The specific problems for educational research are manifold in degrees of difficulty and of significance. Here is a brief list of kinds of problems which are of perennial interest and research into which will be of practical value in typical American cities, if the four essential steps enumerated above are followed:

(a) Periodical accounting of the placement, or movements of classes and groups, of children according to the prevailing plan of organization and promotions. The accounting should reach the smallest divisions of every school in a system.

(b) Studies of all cases of elimination from the schools, through personal investigation.

(c) Studies of all cases of repeating the work of a grade.

(d) Intensive study of exceptional children by coöperating psychologist, physicians, teacher and social investigator.

(e) Measuring the results of courses of study and programs and methods by means of special tests in arithmetic, spelling, reading, drawing, writing, physical education, etc. Here, with moderation, can be utilized the resources of experimental pedagogy.

(f) Study of local industries and vocations with reference to education in the public schools and with particular reference to trades and commercial courses, continuation and night schools.

(g) Special, experimental studies of groups of delinquent children with reference to the best ameliorative and educational treatment.

(h) Administrative problems regarding the hygienic construction of school houses, the grading of teachers, the examination of text books, and the questions of organization and finance,—these offer possible fields of helpful study to departments of research properly equipped.

REASONABLE AUTONOMY NECESSARY

A degree of reasonable autonomy in initiative and in the employment of assistants—an independence resting upon confidence in a researcher's ability and motive, rather than upon rigid rule, is basal for effective research work in a school system. Autonomy of this kind, exercising skill and a constructive spirit, can be of practical benefit to educational research. Educational research of the right kind should protect the child and serve ultimately nearly every department of the community. The researcher, or his department, should be able to attack various types of problems for the school system, for example, practical issues, such as are indicated above in the eight groups of problems. The purpose may, of course, vary from time to time. He may endeavor (1) to secure new facts, make new discoveries, or (2) to verify former researches, or (3) to find errors in existing doctrines or practices, or (4) merely to stimulate, by repeating well-known tests and measurements of materials and methods. He needs a rare combination of scientific training, patience, courage, capacity for drudgery, tact and inherent interest in the children.

Logical Outcome of Research

The practical outcome of educational research under fair conditions, whether the outcome be measured in terms of dollars, or in the economy of time and the increased welfare of pupils will outweigh the cost of its maintenance. To preserve at once its scientific integrity and also to secure utilization of its potential value for the efficient administration of our increasingly complex school systems, while it survives the financial hardship of pioneer work, are three problems of educational research, from the director's point of view. When researchers under stress are able to maintain without blemish the scientific integrity of their work, while faithfully helping our teachers, superintendents and boards to solve the baffling problems that multiply in modern school systems—then their positions should be accorded adequate recompense. Public approval will be theirs, and researchers of thorough training and experience will not have to rock along on inadequate salaries. Then also will a high type of public school and university trained graduate be attracted to the work in increasing numbers. The present disposition of school boards, progressive superintendents, and of the public, to favor educational research upon a broad, adequate basis, in behalf of our thronging millions of children, is an encouraging sign in these troubled years of the world.

COMMUNICATIONS AND DISCUSSIONS

A PRELIMINARY STUDY OF FARM SHOP NEEDS.

Ottis Hoskinson
Principal Wellington Township High School, Ill.

IN an attempt to determine the kind of manual training best suited vocationally to the pupils of a rural high school, fifty farmers were personally interviewed. They are representative men of three communities. Taking their shop needs as typical, it was hoped that something might be worked out which, with small equipment of tools and the training which a school could give, would be of real service to the farmer generally. Each farmer listed the project either from memory or from his accounts. In no case did any one think that he had found all which had been done. Some had actually done the work themselves, while others had paid out money for what they often considered poor service. The local blacksmiths, carpenters and repair men also permitted the use of their accounts in securing a completer list after the farmers had given what they could get.

No projects requiring high technical skill or expensive tools were listed. Such odd jobs as could be done on bad days or in less time than would be required to take them to the shop or in times of lull in the regular farm work were taken into account. The following example will illustrate. In corn planting time, a farmer broke a small casting on the planter. The implement dealer supplied a duplicate from his stock but the farmer, lacking both tools and training, came to the smith to have it put on. There were many ahead of him so he waited from eight in the morning until noon for his turn. Finally the smith removed five bolts, cut four rivets with a cold chisel, slipped on the new piece, put in the bolts and rivets, a twenty minute task, for which he charged a liberal price because his noon meal was delayed. Even then the smith's fee was only a small matter when considered along with the expense of the long wait in seeding time. Two monkey wrenches, a cold chisel and a small hammer, plus a little training would have saved both fee and wait. One other had a similar experience when a horse pulled a shoe in shelling time, while another lost corn in the field because he could secure no carpenter to repair a crib when it was needed. There were experiences galore in many other small matters.

The projects fall easily into seven general classes. Ranked approximately in order of determined importance, these are woodworking, blacksmithing, leather work, painting, concrete and cement work, rope work, and soldering, with other sheet metal work.

In wood work come the making of single-trees, eveners, cold frames, small outbuildings, brooders, hen-coops and potato crates, hanging and refitting screen doors, barn doors and gates; changing interior of cribs and feed stables and cutting new doors and windows. Besides these there are many others for which the only tools needed are saws, square, set of chisels, brace and bits, screw-driver, hammer and a home-made work-bench. In no case is there a demand for cabinet work, or neat, close fitting glue joints or pattern mortise and tenon or anything which calls for the artist's hand or eye. Most of the projects are exactly suited to the ability of the unskilled country lad as he enters the rural high school. Behind these projects there is also a demand for the thing made and not solely a duty to perform for credit; or perhaps, in some cases, there are both, which deepen the motive to do it.

The blacksmithing includes ironing wood-work, making gate hinges, simple welding, plow sharpening, riveting, straightening and bending, clipping and re-threading bolts, and re-setting horse shoes. In this case also there were many unclassed jobs which could be readily done without expert skill and with small equipment. The need again is the motive for work. There is an entire absence of fine work, art metal, hammered copper and glossy finish.

The item of expense in harness repair and care seems to have accumulated without having attracted the serious notice of most of the men. Some were really surprised when they added the stubs of their check books and then considered the amount they had paid cash in addition to their checks. The itemized bills of repair men showed the following types of work: straight seams, rolled leather, loops, buckles, needle sewing and bristle sewing. In a few instances belt lacing, punching holes for shortening or adjusting, softening collars and oiling are added. During the interview nearly all asked for instruction in determining the kinds and quality of leather, in its care, and for a study of oils and waxes used as preservatives and lubricants and the methods of applying them. There is no request for stamping, carving or other art work in leather.

The needs in painting, varnishing and staining would seem to include instruction in the number of coats to apply and the texture of each coat for certain kinds of work, the proper color combinations for best effect, some simple principles of paint mixing, in judging the quality of various paints, the cost of paints and painting, and the characteristics of good work. A few times simple varnishing is asked for, and how to select and care for brushes. Highly polished effects in stains and waxes were considered the function of the more professional workman. None had any trouble in determining the amount paid out for paints and for painting, but none could estimate the loss incurred by neglecting small jobs because of the relatively high cost of securing a contractor to come out for it. Each considered this item a substantial one. Most thought it would be wise to learn how to spread paint a little at least.

It was not difficult to determine the work in concrete and cement. Nothing could be expected which required expensive molds. No large project could be economically carried out unless the community owned a mixer, but this is feasible. If practical instruction should be given in per cents of mixtures and in how to mix and manage the materials successfully, then very much could be done by the farmer during the lull which follows the threshing period. The weather conditions for this kind of work are usually ideal at this time of year and experienced workmen are hard to get. Some of the projects mentioned are troughs, walks, foundations, floors and fence posts. With the increasing use of this material, the progressive manual training teacher would have little trouble in finding plenty to do both interesting and instructive.

Nearly everyone had some experience to relate of how he had been helped by his skill in rope work or had been seriously hindered by his lack of it. Rope splicing, tying various knots, making different hitches for various uses and threading a block seemed to be of special importance. A further demonstration of the supposed usefulness of this work came in a recent short course at the local rural high school when some of these men worked with increasing enthusiasm for two successive hours for each of the four days of the course on the projects mentioned. This is also a new field for investigation by the farmer and since the use of rope is continually increasing much more could be done in it.

Last in importance came sheet metal work and soldering. Not many of the men knew that so much could be done in this line with little training. One man after an hour of instruction bought an outfit. He says that in one year he had saved the price of it in repair fees alone, not mentioning the inconvenience avoided by not having to do without a utensil which failed just when he needed it most. No one had kept a definite account of money spent in this way but all had considered it to be a small amount. They all agreed that the loss caused by discarding unwornout pieces because they were slightly out of repair was large, and that the inconvenience in using things in that condition was considerable, to say nothing of the annoyance of having to use them. No one thought of undertaking a large roof or project of any kind. But projects such as soldering straight seams, repairing pieces, lining boxes, replacing handles and spouts of cups and kettles, and other mending are considered as worthy ones.

The following estimate of the tools necessary to carry on these activities is given by local men who represent the different lines in this and other nearby communities.

Wood work	$25	$45
Blacksmithing	40	65
Leather	5	60*
Painting	2	5
Concrete and cement	2	8
Rope work	1	2
Soldering and sheet metal	5	12

* This estimate included a stitching machine.

The equipment required is not expensive and the materials no more so than those usually used. It would take a different kind of shop but not a much more elaborate one. The teacher who could manage all these things would be hard to find. Some of the practical men of the community might be called in for help in some of the lines not usually taken up in school during the time these are being treated. This, for obvious reasons, might be helpful to both the man and the school.

This method of attacking the problem was suggested to us by Prof. Charles Hughes Johnston of the University of Illinois and due acknowledgement is here given him. It has in a small way revealed the real needs of the farmer in his shop work. The method is proper but we feel that the number of cases is too small to be used as a basis for a general conclusion. But as far as it goes it shows a marked difference as to project between manual training as it is usually taught in the rural high school and what is really needed in later shop work on the farm. In any case the study, brief and inadequate though it may be, brought the investigator to a better understanding of the vocational needs of his patrons in these directions and gave another clue to the method of more closely allying the school and the community by trying specifically to meet that need. If the estimate that eighty per cent. of the people of a given type of community either remain there or go to another like it is correct, then it ought to be an easy matter to decide which line of work should be undertaken by the school.

BOOK REVIEWS

Ernest Carroll Moore. *What Is Education?* New York: Ginn and Company, 1915. Pp. vii, 355.

This book "is an attempt to discuss some of the fundamental presuppositions of education." "The notions of education," says the author, "which I have attempted to outline I have learned chiefly from Socrates and Plato." He also acknowledges indebtedness to Dewey and Frank McMurry. All these are honored by the simple, clear and forceful way Prof. Moore has set forth his "notions." He quotes quite freely from Plato and makes this Ancient seem at times quite modern. Indeed the philosophic excerpts in themselves would make the book worth while.

From various angles he drives home and magnifies the meaning of inward growth and self activity. Aside from some diversions into desultory philosophizing the first 200 pages hammer chiefly on these themes. Even in his less coherent chapters of the last 150 pages he turns frequently to them. However, the methods of attack throughout the book are so novel and the style so pleasing that the reader's interest is readily sustained. If more of our philosophers could write in Moore's style they would be read with greater pleasure and increasing profit.

Moore reminds one that education is not imparting knowledge. "From the standpoint of the learner, it is the process of using one's own mind in socially profitable ways, in the making of knowledge. From the standpoint of the school, it is the process of providing the conditions which necessitate the child's using his own mind in socially profitable ways in the making of knowledge." The teacher's function is "to provide the environment." "Education is a life process." Knowing anything means "the ability to use it in all possible ways." "Our worlds are different." "Speech is a very inexact revealer of our feelings, convictions and purposes. . . . Our words go out; our thoughts remain with us." Language is not a substitute for experience. Perceptions or thought "cannot be handed about any more than toothaches or headaches can. Each person must make his own thought for himself." "Education, then is the process by which the individual continues the pre-school activity of getting experience and working it over by reflection into terms of social utility." "The only kind of education is self education."

The task of education "is to so act upon others that they will feel, think, and act for themselves . . ." This pragmatic, self-activity point of view conflicts with the doctrine of general discipline; so Prof. Moore gives a chapter to the subject. In his rather good historical account he shows how Plato, apparently the foremost to suggest the essence of this doctrine, was not consistently a "disciplinarian." Finally he musters modern students of Psychology in his attack upon the doctrine.

The chapter on *Learning by Problem Getting* strikes the reviewer as especially good. The real student attends to some definite problem around which details crystallize. Genius is expressed by sustained, persistent problems toward whose solution all experiences tend to focus. Historical evidences are given to show that great inventions did not mysteriously spring up but that they evolved quite gradually.

In the next chapter, *Organization by Selection,* he deplores the lingering still of learning definitions and pleads for problem solving as a substitute. To separate the essentials from the non-essentials; the true from the false, and to organize experiences are the students' vital tasks.

In Diagnostic Education he taboos examinations as means for grading students and he ignores them as means to aid the learner. He shows the tendency toward standardizing tests. He welcomes these and suggests that while the scales at hand merely measure absolute performance "scales which establish norms of attainment and degrees of variations from them of children in the first, second, . . . and eighth grades" are most needed. Furthermore he maintains that "the true test of the school's efficiency consists in finding out whether or not that student, thirty years after graduation, is still a man who reads, who writes and spells well . . . and still in particular . . . shows that in his youth he began to learn a way of life."

It is to be regretted that the impression is left by the author that all examinations are of the traditional, knowledge testing type and consequently should be dispensed with. Fortunately not all are. Some examinations are given with the aim to aid the learner, by stimulating him to study, re-study and re-organize and by helping him better to retain what he has learned by demanding its recall before it is forgotten. Very short, informal, frequent tests unannounced serve these purposes.

In the closing chapter the author reverts to his main theme and concludes that "the purpose of education is to develop certain specific attitudes, expectations, reactions, ways of going to work or comporting himself in the varied situations of life, on the part of the student."

Presumably the book is intended for college students of education, but any student of education should read it.

GARRY C. MYERS.

Brooklyn Training School for Teachers.

WILLIAM HEARD KILPATRICK. *Froebel's Kindergarten Principles.* New York: The Macmillan Company, 1916. Pp. XI, 217. (Price 90c.)

This book is an outgrowth of a "critical study of Froebel with successive classes of experienced kindergarten and primary students." . . . "The general aim of the book is to help spread the reform of kindergarten theory and practice," and the appeal is to all types of educational workers.

Of the six chapters of the book the headings of the first four chapters well bespeak their content: *The Principles Underlying Froebel's Educational Doctrines, The Underlying Principles Examined, Froebel's Educational Psychology, The Kindergarten Gifts and Occupations,* and each chapter has an excellent summary. In the fifth chapter, *Additional Elements of the Kindergarten Curriculum,* the author discusses school gardens, games, plays and their symbolism. The last chapter summarizes the unsatisfactory elements in applied Froebelianism and spends five pages, miserly it seems, to the *Strong Points in Froebel's System.*

According to Prof. Kirkpatrick's conclusions Froebel's "Law of Opposites" to the scientific student is unknown. Froebel, in reference to development, emphasized life for what life leads to only, and omitted to emphasize life itself. Furthermore, he puts selection "with the child's native endowment instead of in the social situation." As a corollary to *development* is Froebel's doctrine of "innate ideas," out of which grows *symbolism.* The gifts series and "every vestige" of symbolism, Prof. Kilpatrick would have eliminated from the kindergarten. He would no longer put Froebel's writings into the teacher's hands. "Froebel's name will probably be honored, and his memory will be revered, but only carefully selected passages from his books can be assigned, and this rather for the older students."

Five pages hurriedly pass over Froebel's *"love for sympathy with childhood,"* his emphasis upon *social relationship*, upon school gardens and nature study and his general emphasis upon happiness in the child's learning activity. To many it may seem that Froebel and his followers deserve more emphasis upon these *strong points*. Furthermore, it must be admitted that the ardent Froebelians are filled with a kind of consecration to their work which is not wholly manifest in a literal criticism.

In spite of the many acknowledged virtues of Froebelianism one can not fail to agree, in the light of modern Psychology, with practically all that Prof. Kilpatrick has to say about Froebel's kindergarten principles. It is a marvel that for centuries Froebel has so faithfully and literally been followed almost without a question as to the validity of the principles of his system. It is hoped that more who write books will emulate Prof. Kilpatrick in saying much in a clear way but in few words.

GARRY C. MYERS.

Brooklyn Training School for Teachers.

EDWARD CARY HAYES. *Introduction to the Study of Sociology*. New York: D. Appleton and Co., 1915. Pp. 718, XVIII.

A book which has been in the process of making for a period of thirteen years is difficult to review adequately with a few hundred words. The task becomes especially difficult when that book is a comprehensive survey of an entire field that has been revised continually in meeting the criticisms of more or less mature university students. This is the task which confronts the reviewer and it would be absurd if he were to do otherwise than to recognize his limitations.

Prof. Hayes has given us a comprehensive survey of the "field of thought designated by the much used word 'sociology.'" He has taken the various causes that affect the life of society and, after analyzing each, has shown their true relations to this life. This life is described and analyzed into its various phases. Its origin through social evolution is presented and its various phases are explained by the different theories current among sociological writers. The last part of the book considers the topic of social control. The various theories which bear upon the topics under consideration are given systematically, modified or elaborated as occasion demands, and woven into the fabric of a complete system of thought. One may disagree with some of these minor interpretations but he can not help but admire the masterful way in which all is woven into a real system of sociological thought.

The reader or student who takes the time to go through this text, giving the careful reading and thought which its assimilation demands, will have something of the "world view" which Prof. Hayes says is needed and which he, in his humble way, tries to give. There are places in the work where a little more elaboration might make it clearer to the elementary student. In other places it seems as though the author is verbose. But, in the main, the thought movement is so steady and so clear that only the fault-finder would criticize. The book has been used in the author's classes in manuscript form for several years with much success. Since its publication it has been used in classes elsewhere and both teacher and students are lavish with their commendations. This can mean nothing else than that the author has put a portion of his charming teaching personality into his book.

C. E. HOLLEY.

Bellevue College.

JOHN M. GILLETTE. *Sociology*. National Social Science Series. Chicago: A. C. McClurg & Co., 1916. (Pp. 159, price, 50c.)

The reviewer, who is not himself a sociologist, accepts without question, for the purposes of this review, the scholarship of this little book. It bears all the marks of scientific accuracy and is, besides, written in a racy and interesting style.

The author says it is his purpose to write a small "volume on sociology which the public generally may read, and perhaps study clubs and secondary schools may use as a guide." He has wisely refrained from any attempt to include all the topics found in ordinary college texts, has limited the scope of the book to a discussion of the most important sociological principles, and has tried to give each of these principles as many practical applications as possible. This is the method that must be used in presenting the elements of any social science to a popular audience or to high school students, if the study is to mean anything to them.

The first chapter gives a simple definition of sociology and explains its relations to other social sciences. This is followed by two chapters, largely historical, treating of the origin of society, and of races and institutions. The fallacies of many of the notions upon which race prejudices are based are clearly shown. The explanations of the origin of religion, and of the origin and existence of a social order are clear and concise and are calculated to widen perceptibly the horizon of the popular reader. So will the chapters which follow dealing with social evolution and the nature of society, of the social order, and of the social mind. The last three chapters of the book deal with progress, the equalization of opportunity, and the elimination of the unfit. A number of practical conclusions are drawn and some suggestions are made for social betterment but in no place are the canons of scientific scholarship violated.

This is one of the best of the useful volumes appearing in the National Social Science Series. It will give the popular reader who has never studied sociology a very good notion of what this science is and how it is helping clarify, explain, and solve social problems. The book will also serve as a most satisfactory reference for high school classes.

If this little volume of one hundred and forty-five pages were extended by the addition of a hundred pages devoted to more ample explanations of theory through concrete illustrations and to additional practical applications it would make an excellent text in sociology for high schools. The pedagogy of the book is good. It is scientific but is practical and has a "punch."

There is no theory or practical suggestion in this book beyond the comprehension of the ordinary high school junior or senior. It is far less difficult than the ordinary high school text in economics. A knowledge of the elementary principles of sociology is absolutely necessary to the citizen who would understand our social problems. The actual operations of our government and our political problems cannot be understood without such a knowledge. The scope of social science subject matter for secondary schools should be extended. Committees that are studying the social science problem and attempting to outline courses for high schools would do well to consult the volumes of the series in which this book appears.

JESSE H. NEWLON.

Lincoln, Nebraska, High School.

FREDERICK ERNEST FARRINGTON. *Commercial Education in Germany.* New York: The Macmillan Company, 1914. Pp. 258.

The importance of a study of commercial education in Germany is seen in the fact that she has exactly doubled her *per capita* foreign trade in thirty years. In comparison, the over-sea trade of the United States which we think has had a marvelous development, has shown no *per capita* increase in the same period (1880–1910).

In so fundamental a change in a whole nation from agrarian to industrial pursuits there are no doubt many contributing causes, but in this case it is believed that the educational influences within the nation have had unusual force. Realizing these facts, Dr. Frederick Ernest Farrington made two trips to Germany to make a thoroughgoing examination of certain representative schools in that country, with the purpose of enabling educators in the United States to benefit by the wisdom and to avoid the unwisdom contained in Germany's system of unparalleled commercial and industrial schools.

One element is dominant in the results of this study embodied in this book. The author has thoroughly sifted the wheat from the chaff. He evidently was in no wise overcome with the recognized success of the German schools to the extent that he could see therein no dangers or menace to our conditions in this country. He exhibits clearly, and one believes fairly, the autocratic influences that permeate the system, the repression of individual initiative, the lack of cultural elements, etc., and withal brings to our vision no less clearly the vast superiorities in the German system which should claim our earnest consideration.

An introductory chapter gives an excellent portrait of the German system of education as a whole. Succeeding chapters consist in critical analyses of certain representative schools of the Empire. These examinations of typical schools are very thorough. The author describes the governmental and administrative features and presents statements of the content of the various courses. In many cases reproductions of recitations are given from notes taken in class to illustrate methods of teaching or content of the courses or both. By this means the author succeeds in presenting a very definite impression of the characteristics of the various courses and curriculums.

The final chapter of conclusions is full of the most wholesome suggestions for our easy-going, reckless and spendthrift communities. No person in this country who is interested in any way with the relations between our educational system and industry or commerce can afford to miss the kind of suggestions and information which this book so admirably presents.

W. H. Rayner.

University of Illinois.

GEORGE M. BRACE AND D. D. MAYNE. *Farm Shop Work.* (Practical Manual Training.) New York: American Book Co., 1915. Pp. X, 291.

In "Farm Shop Work," Profs. Brace and Mayne have a text in manual training which recognizes the vocational needs of rural grade and high schools. The title is a correct one. The articles made are for use on the farm. The projects start with the simple rough work and go to the more difficult and finely finished products.

The twenty-six exercises in wood-work include bench-hooks, saw bucks, hammer handles, hog cots, and others with a discussion of the materials and tools used. No cabinet making is indicated.

The blacksmithing covers gate hooks, hinges, links and ironing the woodwork made above and other odd jobs usually found on the farm. Here there is also a discussion of materials and tools.

The cement and concrete work deals with making forms and fence posts, laying steps, walks and foundations, in all five exercises, with directions for mixing and managing the mixture successfully.

The closing chapter takes up harness-mending, showing how to twist and wax thread and how to make a neat seam. There are but a few projects but these are true types and are carefully treated.

The book is well planned but not extensive enough to meet all the needs of a farm shop. It is however of real service to the progressive teacher or supervisor in the rural schools not only in having excellent plans and descriptions but also because it suggests a new field for manual training and renders it really vocational to the larger per cent. of the rural school pupils who take it.

OTTIS HOSKINSON.

Wellington, Illinois.

Educational Administration and Supervision

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EDITORIALS

The School Administrator and His Philosophy of Education

Chesterton reminds us that he who most strenuously avoids a philosophy is most clearly expressing one. There are philosophies in education, although they may be chiefly the brands to which Chesterton refers. We are of late however pretty surely in revolt at such inarticulate "philosophies of the schools."

Mayn't the school man find something to his purpose in relating his policy of school administration definitely to some modern system of philosophical thought? "To know the chief rival attitudes towards life," to appreciate the reasons given for them, and to force one's self to hark back to fundamental considerations when initiating school reform or justifying school procedure ought to be an essential part of the professional equipment of the school administrator. Otherwise, curriculum construction, to select a typical administrative function, must degenerate into mere checkerboard manipulation of programs and schedules, or at most into adjustments to the merely more obvious and pressing demands of an economic, political, or traditional sort.

PHILOSOPHERS AND PRACTICAL EDUCATORS

All educational commissions, committees or boards with whom we have worked have had in their membership two types of workers. One group, usually the smaller in numbers, tends eternally to force considerations of policies and specific administrative measures back into the field of fundamental principles. They try to deduce their conclusions from some thought system of theirs which for them appears to have absolute finality. In drawing up reports, making recommendations and interpreting or evaluating educational measures on hand this group tends to think overmuch of the provisos which must be inserted, of the qualifications to be made, even of the questionable outcome of the very procedure to be recommended. It never cheerfully acquiesces in mere majority consensus of practical judgment. It exasperates the practical group, the dominant group generally. This latter group soon tires of the finer distinction, its members think in terms of programs of action. They go roughshod over technicalities with the attitude "our position is in the main right—Here goes! The language doesn't matter. Let's get something done." Whereas the other group (the philosophically minded) feel so inspired with the portentousness and the symbolic suggestiveness of the project that they endanger cleanness of execution, these more narrowly empirically minded aim at clearness and preciseness of executive detail, but care more about the next step than about the far-off final completion of the enterprise being projected. More in touch with the field where the work is to be done they take the means employed (report, in our example) purely as an instrumental thing, as a matter-of-fact "next step." And so the motion is carried, the report made, the school machinery affected set in motion (even if much of it is lost motion) and educational history, such as it is, is made. It is easy to divorce articulate philosophy from formulation of school policy.

PHILOSOPHY AND EDUCATION

For the most part, technical or professional philosophers have overlooked the actual educative procedure, as naturally professional students of education have as a body drifted away from philosophy and sought affiliations rather with their colleagues in modern psychology, in social science, in economics, and in political science. This estrangement is, we believe, unfortunate. Most philosophical questions have a humble but very vital counterpart in educational thought and educational practice. Education for all of us is a partially ideal performance. Our crude, inadequate, inarticulate, unintentional philosophies are none the less real. Educators and school boards must act, and they are lucky as a rule if there is any principle at all in sight to direct their action. Most professional philosophers think they cannot afford to be disturbed by importunate requests to relate to their fundamental systems of .thought the amazing list of practical school problems any school administrator can without a moment's notice reel off to them. Likewise most school administrators realize that they can't wait indefinitely for the leisurely explorations of their fields by luxurious and fastidious ontologically (Horne) or epistemologically minded (Dewey) philosophers—wait till they in their unhasting comfortable leisure and in their academic atmosphere, like an oracle, give them a final answer. Yet there must be, despite Bertram Russell (*Scientific Method in Philosophy*), who himself at last designs to choose an educational theme, some simple results which philosophy has at present achieved which bear upon the very real outstanding problems of education. It is indeed astounding that philosophers have dared keep themselves so detached from and uninterested in educational practice. It is difficult to appreciate their complacency in the presence of the "thought agonies" of thousands of practical educators who can only think while they work.

We educators of all ranks know that our emphases are often upon isolated aspects of the whole educational ideal. Our thoughts become tangled as we direct our different and uncorrelated partial processes. We don't have time to stop long enough to see how the partial thoughts accompanying our partial and isolated processes are or are not elements of some more understandable and more comprehensive view of education as the motor coördinate of the real life of the sound philosopher's "Reality." We all know well enough that there is lack of organic coherence in the totality of the necessarily scrappy views which we apologetically expound as we seek to justify in some confusion our practice. Such hasty attempts of ours to expound our views in terms of theoretical conceptions of the totality of the process which is going on under our eyes and by our hands have, we know, missing links.

OUR "SYMPOSIUM"

Elsewhere in this issue there appears prominently a series of discussions attempting to indicate a closer connection between philosophy and education, with the attention, in two articles at least, upon a particular theme—the school administrator's need.

May we be permitted to raise for the casual reader a few questions? Does one of the contributors go at the matter wrong end first? Is ontology nowadays the least satisfactory and the least useful part of philosophy? Is another author more nearly correct in staking so much on epistemology? In this latter sense is it really a fact that philosophy is playing but little part in the educational thinking of the day.

If we all admit with the present authors the necessity for reflection on our standards and the need for a generalized theory of adjustment from which to derive a sound steering conception of the educative process where must we look, if not to ontological attempts for a philosophy worth our study?

JOHN DEWEY—EDUCATIONAL PHILOSOPHER

John Dewey's latest book, Democracy and Education, stands alone in modern literature as a genuine philosophy of education. Dewey defines philosophy as itself a process of education. Dewey's specialty is how men think and how their thoughts become effective, and the relation of this process to our progressive democracy. We hope in later issues to comment at length upon this great contribution to democracy and to education, and to print certain contributions from educators showing specifically just how they are deriving help from this deservedly popular philosophy of democracy by its dauntless champion. Chapter 24 of the above volume deals brilliantly with our present theme.

THE DEWEY-MORE CONTROVERSY

When the great body of teachers from every state in the union assembled in New York City this past summer journalistic circles took notice. Two very prominent weeklies in particular made unusual efforts to issue special educational numbers. These were *The New Republic* and *The Nation.* One of these publications furnishes us some of our material for the "Experimentalist's Planks" in our Party Platforms, the other material for the Absolutist's Planks. No prettier issue could be drawn than we find in the leading articles in these issues: *American Education and Culture,* by Dewey, in The New Republic, July 1, 1916, and *The Old Education and The New,* by Paul E. More, in The Nation, June 29, 1916. If one wishes to be driven forthwith to a philosophy of education he might read these rival claimants of the attention of the nation's teachers as they in such unusual numbers assembled last July in New York City for the annual meeting of the National Educational Association.

C. H. J.

Educational Method—Party Planks

ABSOLUTISTS

WE believe that even in the elementary school, the principle of organization and presentation of material to children should be *logical* and that it is a wholesome educational doctrine to subordinate wherever possible the immediate interests and natural spontaneity of children to the more ultimate and more purely intellectual goal of clarity, definiteness, and the gradually impersonal comprehension of facts and relations. We believe that in the skillful pedagogical presentation and application by teachers this necessarily external but carefully pre-arranged material of sense and ideas will (partly subconsciously) work for the best, educationally, in the child's mental growth—even though it may not seem to them "natural" at the time. In the main we have faith still in the Herbartian principles of association of ideas and in the school's past loyalty in practice to those principles. We regard it as deplorable to modify, reduce, or dilute this method of logical organization, except where temporarily it is necessary to make certain accommodations to the child's immaturity or stupidity. In general the things to be taught largely determine our method.

EXPERIMENTALISTS

We believe wherever possible, in all grades, teachers should reject the dictation of pre-arranged subject-matter and accept as the very foundation stones of educational method the principle of utilizing to the full the naturally inherited possibilities of the learning processes, rooted in the instinctive and impulsive attitudes and activities of children and of youth; and—utilizing these as far as is practical—reproduce as nearly as possible on the learner's plane the typical constructive social doings of the outside world.

We believe this wave of educational reconstruction has been going on steadily for years, that it is gaining in scope and momentum, and that in both elementary and secondary schools it is the source of our present revival of interest in more vital new subjects and in more vital aspects of traditional subjects; and we furthermore believe that elaborate existing schemes of teaching built largely on study of subject matter are failing to produce desired results, and indeed always tend to result in mental sterility and in dislike of school and in paralysis of interests and in incapacity for later active participation in the usual activities of wholesome constructive living. C. H. J.

BOOK NOTES

C. M. BOOKMAN. *Business Arithmetic.* New York: American Book Company, 1914. Pp. 250.

The prime requirements of good business—speed, accuracy, and correct methods—are the things in which this volume is designed to give skill. About one-third of the book is devoted to the fundamental processes of Arithmetic and fractions. The problems are of the nature one would expect to solve in the business world. Short Chapters are given on the Graph and the Equation, two valuable means of expressing number relations which are often neglected in a business course. A mark of the "newness" of this book is the method of figuring profits and cost of doing business on the selling price rather than on the cost.

R. W. BURNHAM. *Mathematics for Machinists.* New York: John Wiley and Sons, 1915. Pp. 229.

The ordinary mechanic has little knowledge of mathematics for he is likely to have left school before completing the eighth grade. In order to give him an understanding of the formulas which he must apply, such a text as Mr. Burnham offers may be used to good advantage. The contents of this book include a chapter each on common fractions; decimal fractions; percentage; blueprints; measurements; constructions; powers and square root; lathe work; threads; thread cutting; simple machines; work, power, ratio; gear calculations; milling machine; volume and weight; shop trigonometry; business organization; and an appendix of formulas. The author has made an effort to adapt his method of treatment to day trade, continuation and coöperative classes in which kind of classes he has had considerable experience.

HARRY ANSON AND JOSEPH CLIFTON BROWN. *Modern Business Arithmetic, Brief Course.* New York: Henry Holt and Company, 1916. 298 pages.

The material for drill in the fundamental operation in this book is of unusual merit. The treatment of the fundamental operations with integers and fractions is clear and concise, and there are many exercises for practice. The treatment of commercial topics has been read by business and professional men and the discussions may be expected to conform with modern business practice.

P. W. L. Cox. *Solvay School Report for 1915–1916.* Syracuse: Northern Publishing Company.

This school report of Superintendent Cox, supplemented by short reports from his teachers, is a type of report which should be more common. It is not a dry statistical report. It does give the figures necessary to show how the money devoted to school purposes has been spent, but it goes further and tells what the Solvay schools are accomplishing.

Superintendent Cox endeavors to interpret the junior high school movement in its essential aims instead of identifying it with one or more of the means by which it ordinarily seeks to accomplish these aims. He pictures his school as a social institution which gives to each pupil, in so far as it is possible, the material of instruction which he as an individual needs.

For the results which Solvay is accomplishing, Superintendent Cox does not claim the lion's share of the credit by any means. To his intelligent patrons, his far-sighted and progressive school board, and above all to his well trained and liberal minded corps of teachers he gives just praise. As he says, the school system of Solvay is permeated with the spirit of coöperation.

With such reports as the present one, to give the people an understanding of the broader aims as well as of the actual accomplishment of the schools, we may reasonably expect more hearty support of education by all the people.

Walter S. Hinchman. *The American School.* New York: Doubleday, Page, and Company. Pp. xi, 232. Price $1.00.

This is one of the American Books series; all of which deal with present-day American problems. In spite of its inclusive title, it is really a treatment of the American Secondary school.

The author discusses at length characteristics of the American people, and the heterogeneity of the parent, teacher, and pupil population. He recognizes the fact that in this country there is no really typical school, teacher, parent or pupil.

The author might have borrowed much of the substance of his material from Dewey's Schools of Tomorrow and certain other recent educational contributions, if he did not do so. He recommends the six-three-three plan of organization for the twelve years of public school, though he does not, in the reviewer's opinion, give the fundamental reasons for such an organization. He submits curriculums for the schools as he would have them organized.

The three aims of secondary education which he says are commonly advanced are culture, utility, and discipline. He stresses particularly the need for more culture, which he thinks would be gained through a sympathetic study of the humanities.

Better teachers, by means of a wider range of salaries, more general pupil participation in athletics with good, non-professional supervision, and some kind of religious teaching in the schools, are among the things which he hopes to see realized.

JAMES F. JOHNSON. *Practical Shop Mechanics and Mathematics.* New York: John Wiley and Sons, 1915. Pp. 130.

This little volume is dedicated to the "Ambitious Workman" and is a book that may well serve the individual student as it is also usable in classes. Explanations are given in sufficient detail to make clear the application of rules and formulas. It is more of a handbook for mechanics than it is a book of Mathematics.

R. BURDETTE DALE, B. M. E., M. E. *Arithmetic for Carpenters and Builders.* New York: John Wiley and Sons, 1915. Pp. 231.

Manual training teachers find their students in need of drill in the fundamental processes of arithmetic and especially do they remark a weakness in the use of fractions. The "Arithmetic for Carpenters and Builders" seems made to meet these needs by treating common topics of arithmetic in its first six chapters. Practical problems are given involving the manipulation of fractions, mixed numbers and decimals so that the student gets a much needed review. The author seeks to give an understanding of the fundamentals of carpentry as well as of the arithmetic involved, and for that purpose includes a couple of chapters on the various uses of the carpenter's square.

JOSEPH KENNEDY. *Fundamentals in Method in Elementary Schools.* New York: The Macmillan Company. Pp. xxiv, 326. Price $1.25.

The method of treatment here does not differ considerably from that of the same author's earlier book, Rural Life and the Rural School. It is addressed to a larger audience, not being limited to the rural teachers, but it will, after all, appeal to the same class of readers.

The author aims to avoid both philosophical questions and problems of specific methods. He goes straight to the teaching act, and the volume is literally full of illustrations, real and imaginary, of the things which do, and the things which should, take place in the school room. A chapter is devoted to each of the more common elementary school subjects and a later chapter to "special subjects," the last chapter being given to a discussion of the more general subject of "Methods in School Management."

The author's attitude throughout is toward more stress on the spirit rather than the letter in all teaching. The incidental method is strongly advocated for arithmetic teaching in the lower grades and for moral instruction. His recommendations for more emphasis on the correct form and less on the incorrect in all teaching, and his demand for more stress on the neglected art of letter writing, are pertinent. His remarks on the teaching of hygiene are good, but not very new.

The book strikes one as decidedly bulky for the material contained. Except for its quality of long-drawn-outness, the material can hardly be objected to. Elementary teachers who have the time will do well to dip into the book.

L. R. **Klemm.** *Public Education in Germany and in the United States.* Boston: Richard G. Badger (The Gorham Press), 1911. Pp. 350. Price $1.50.

The first chapter of this book is headed, "Why cannot the American School Accomplish What the German School Does." The inference is, of course, that the American school wishes to accomplish just that, a proposition that many Americans just now would be slow to admit. The rest of the book is given over largely to a description of German methods. Many specimen lessons in various subjects are included.

While the author gives hearty, and probably just praise to the accomplishments of the German schools and school system, one cannot but feel that he has missed the real spirit of American education. He says, in criticism of present day methods in America: "The light intellectual calisthenics of the modern school room as compared with the heavy gymnastics of the best schools of a quarter of a century ago, is a form of degeneration, from which reaction should speedily come.—Work is eternally a condition of success." Work, we should have certainly, but not necessarily drudgery.

Many and fierce disputes regarding German and American methods in education as well as politics have been waged recently between men who should know the merits of the two systems, and the reviewer could certainly add nothing to such a discussion. It is very evident that the author of the present book has estimated the American school system in terms of German aims and German "efficiency," which is not a good vantage point from which to view things American. There are two common sources for explanation of defects: one is the faulty object, and the other is the point of view.

John H. Moore and George W. Miner. *Practical Business Arithmetic.* Boston: Ginn and Company, 1915. Pp. 461.

This is a revised edition of the Practical Business Arithmetic which introduces new phases of the work as well as essential old ones. The work is marked by its emphasis on the fundamentals, and topics of practical value. A good feature is the inductive development used in presenting subjects without set rules. New parts of the book are those which deal with the parcel post, the income tax, the postal savings bank, the computation of loss and gain on the selling price, tests on a time limit, a tariff schedule that is up to date, additional work on the graph, statistical matter based on the latest census, and an appendix on the varied uses of the adding machine.

The *Concise Business Arithmetic* by the same authors is made up of twenty chapters selected from the "Practical Business Arithmetic" and is prepared to meet the needs of schools which have only short courses in business arithmetic.

H. L. Rietz, A. R. Crathorne, and E. H. Taylor. *School Algebra, First Course.* New York: Henry Holt and Company, 1915. Pp. 271.

Any mathematics text by these authors would merit the attention of teachers and students in that work. This book does not disappoint one's consideration. It shows four well defined aims in the teaching of first year algebra: (1) it should prepare for Plane Geometry, Physics and allied subjects which follow it (2) Algebra should be taught as an extension of Arithmetic (3) new difficulties should be presented one at a time (4) *functionality* is a *fundamental notion* and the one about which the work in graphing should center. Throughout, emphasis is placed on the thought side of Algebra. To this end many exercises are translations of English expressions into Algebraic expressions or vice versa. Too often pupils are allowed to juggle with symbols without having a clear notion of the ideas which those symbols represent. This text ought to counteract any laxity of the teacher in this respect. Another pleasing feature is the graphic presentation of a topic wherever possible. An example of this is seen in the special products, such as the square of the sum of two numbers, the product of two binomials etc., which can easily be represented to the eye by means of rectangles.

The *School Algebra* Second Course (Pp. 235) is planned in accordance with the ideas underlying the "First Course." A number of problems of a "practical" nature are introduced but care is taken that these are not technical to such a degree as to check the natural interest in them. Again the notion of function is emphasized with the graph as a means of visualizing the correspondence between two related variables.

David Snedden. *The Improvement of Educational Administration in Massachusetts.* 1916, Boston: Bulletin of the Massachusetts Board of Education, No. 1 Whole Number 50. Pp. 70.

Commissioner Snedden asserts that the improvement of instruction and the accomplishment of the larger aims of education are dependent upon an efficient administration. He discussed first the defects of the administration of education in Massachusetts and then considers its points of strength. He then treats the various types of education and the grades of schools.

The large general defect of administration of education in Massachusetts is shown to be due to the large powers which are left to the small units of administration. High standards can be secured, says Snedden, only by placing more power in the larger administrative divisions.

Massachusetts ranks very near the top among American states in its training of elementary teachers, but its training of secondary teachers is pronounced decidedly poor.

George H. VanTuyl. *Essentials of Business Arithmetic.* New York: American Book Company, 1913. Pp. 272.

This volume is a revision of the *Complete Business Arithmetic* with some of the more advanced topics omitted and some new ones included. Among the omissions are the Metric System, Involution and Evolution, Customs, Storage, Equations of Accounts, Partnership. Problems in Parcel Post, farm problems, problems in estimating and a comparison of common food products are new features. The book is adapted to use in the upper grades of elementary schools as well as to meet the needs of business schools and academic high schools where an intensive study of the most important topics of Arithmetic is required.

George H. VanTuyl. *Complete Business Arithmetic.* New York: American Book Company, 1911. Pp. 416.

This book supplies ample space for drill work calculated to give facility and accuracy in handling the processes of Arithmetic. Many of the problems are derived from the business affairs of corporations, cities, states, and nations of the world and are inherently informational though well planned to illustrate arithmetical principles. Provision, too, is made for a great deal of mental work. Convenient for the teacher are the examinations, consisting of a speed test and a written test, to determine the student's mastery of the subject at various stages of the course. About half the book is given over to the usual topics of Arithmetic, while the latter half is devoted to Percentage, Interest, Taxes, Insurance, Savings Banks, Stocks, Bonds, Exchange, Customs, Storage, Equation of Accounts, Partnership.

J. W. A. Young and Lambert L. Jackson. *A High School Algebra.* New York: D. Appleton and Company, 1913. Pp. 508.

This book comprises a full course in high school Algebra adapted to one and one half year's work. The first twenty-three chapters deal with the usual topics of Elementary Algebra through a brief treatment of quadratic equations. At first glance there seems to be too much work planned for the pupil in one year but the problems are not difficult and aim to exemplify principles rather than to present obstacles in solving as many of our texts seem to do still. Two other features which make the text seem large are the wealth of oral exercises and the historical notes. Both of these mark the book as being in line with progressive tendencies.

The twenty-fourth chapter very properly begins a "Review and Extension of Processes," so that the work can be resumed after a year of Geometry. Again the oral exercises are a feature which many times is lacking in a Second Course. Altogether the book is a usable one with no radical tendencies to confuse either the teacher or pupils in the essentials of Algebra.

High Spots in the New York Schools. New York: Institute for Public Service (51 Chambers St.)

This little booklet presents in very brief form the advanced practice in the various lines of school activities found in six weeks' visiting to one hundred schools of New York City. Vocational education, vocational guidance, school lunches, pupil self-government, and community work are a few typical topics which are included. The particular purpose of the booklet was to introduce last summer's visitors to the N. E. A. meeting to the New York schools and to show them the better side. It is interesting however to the public generally as representing the best practice in the greatest of American cities.

Kansas City, Missouri, Public School Bulletin No. 1 of the Bureau of Research and Efficiency. February, 1916. Published by the Board of Directors. Pp. 92.

This study is largely concerned with a determination of the abilities of pupils in the various elementary-school subjects, as shown by such tests as the Courtis Arithmetic Tests and the Thorndike Handwriting Scale. Interesting comparisons are made with the achievements of pupils in Kansas City and in other cities where the same tests have been applied on an extensive scale.

Other topics treated in the report are promotion and retardation, opportunity for individual pupils, and school maintenance.

Teachers' Year Book of Educational Investigations, Department of Education. The City of New York Division of Reference and Research, 1916. Publication No. 14.

This year book includes an enumeration of the published educational investigations conducted during the past year and a brief description of most of them. It also tells of the work that has been done in applying the scales, formerly worked out, to large numbers of pupils.

The investigations reported are for the most part concerned with the measurement of the achievement of pupils in the various elementary-school subjects and with measuring the efficiency of the teacher. Mention is made also of an interesting questionnaire study of the vocational expectations of the eighth-grade pupils.

Annual Report of the Public Schools of the Borough of Bellefonte, Pennsylvania. 1914–1915.

This brief school report is of the right sort. It begins with a classification of the people who are interested in the affairs of the school; board, taxpayers, patrons, and press, and tells the things which these various groups wish to know. Then the author proceeds to present his school system in its various aspects; cost per pupil, number of pupils and teachers, training of teachers, promotion record, and the various school activities.

Such a report is of interest not only locally but generally, as an example of the right type of school report.

NEWS NOTES

N. E. A. COMMISSION ON THE REORGANIZATION OF SECONDARY EDUCATION

The Reviewing Committee consists of twenty-six members, fifteen of whom are chairmen of committees, and ten are members-at-large. The members at large are as follows: P. P. Claxton, U. S. Commissioner of Education, Washington, D. C.; Thomas H. Briggs, Professor of Secondary Education, Teachers College, Columbia University, New York City; Alexander Inglis, Professor of Secondary Education, Harvard University, Cambridge, Mass.; Henry Neumann, Ethical Culture School, New York City; William Orr, Educational Secretary, International Y. M. C. A. Committee, 104 East 28th St., New York City; William B. Owen, President, Chicago Normal College, Chicago, Illinois; Edward O. Sisson, Commissioner of Education, Boise, Idaho; Joseph S. Stewart, Professor of Secondary Education, University of Georgia, Athens, Georgia; Milo H. Stuart, Principal, Manual Training High School, Indianapolis, Ind.; H. B. Terry, High School Iuspector, Madison, Wisconsin.

The chairmen of committees who are members of the Reviewing Committee are as follows: Administration of High Schools—Charles Hughes Johnston, Professor of Secondary Education, University of Illinois, Urbana, Illinois; Agriculture—A. V. Storm, Professor of Agricultural Education, University of Minnesota, St. Paul, Minnesota; Ancient Languages—Walter Eugene Foster, Stuyvesant High School, New York City; Art Education—Henry Turner Bailey, Newton, Massachusetts; Articulation of High School and College—Clarence D. Kingsley, High School Inspector, Boston, Massachusetts; Business Education—Cheesman A. Herrick, President, Girard College, Philadelphia, Pennsylvania; English—James Fleming Hosic, Chicago Normal College, Chicago, Illinois. (Address for 1916–17 is 404 W. 115th St., New York City); Household Arts—Amy Louise Daniels, University of Wisconsin, Madison, Wisconsin; Manual Arts—Wilson H. Henderson, Extension Division, University of Wisconsin, Milwaukee, Wisconsin; Mathematics—William H. Kilpatrick, Professor of Education, Teachers College, Columbia University, New York City;

Modern Languages—Edward Manley, Englewood High School, Chicago, Illinois; Music—Will Earhart, Director of Music, Pittsburgh, Pennsylvania; Physical Education—James H. McCurdy, Director of Physical Education, International Y. M. C. A. College, Springfield, Massachusetts; Sciences—Otis W. Caldwell, School of Education, University of Chicago, Illinois; Social Studies—Thomas Jesse Jones, Bureau of Education, Washington, D. C.; Vocational Guidance—Frank M. Leavitt, Professor of Industrial Education, University of Chicago, Chicago, Illinois.

This Committee will make its final, extensive report in 1917.

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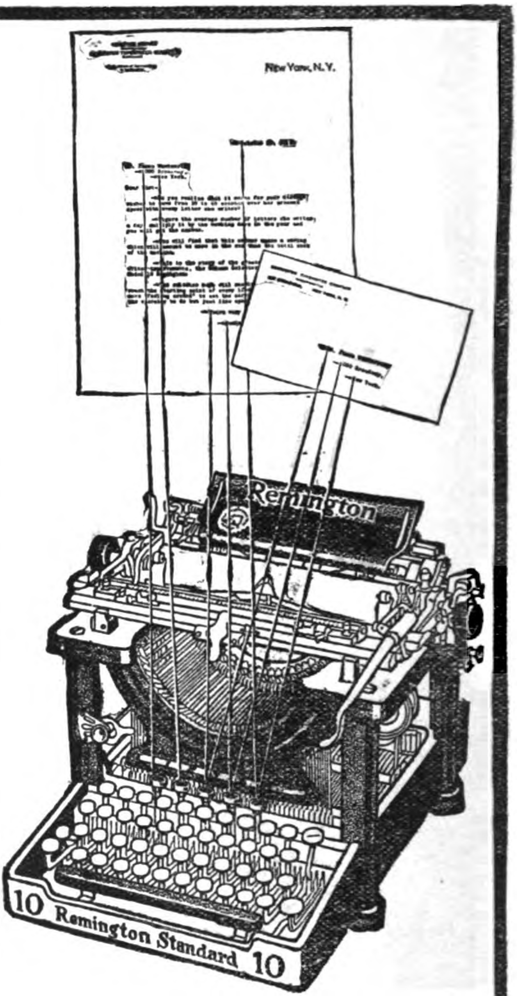

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

The Re-adjustment of Solvay Schools

Philip W. L. Cox
Harris Teachers College, St. Louis, Mo.
Formerly Superintendent Solvay (N. Y.) Schools.

LEST I later be accused of plagiarism, I want to begin by disclaiming any originality in connection with the re-adjustment of the Solvay schools. I have constantly borrowed and adapted philosophies, administrative devices, methods and organization plans from educationists and practical school men in this country and Europe, and most of what is original was developed by one or another of the able teachers of the Solvay schools, with whom it is my honor to associate. And little or none of the re-adjustment would have been possible were it not that the Solvay Board of Education had grasped the significance of the new conception of education, and in the words of Dr. Spaulding, had set about "transforming a system of education which set up a fixed and arbitrary standard of selection and rejection, a standard which few or no children can perfectly fit, which very many can fit scarcely at all, which did its utmost to make alike those children who survived the test, into a system that welcomes, seeks all children, fits work and method to individual needs, and strives to send children out of school just as individually diverse as nature designed them to be and as the diversity of service which awaits them requires."

But it was J. P. Monroe's book, "New Demands in Education," which gave life to the smouldering fire of discontent in Solvay and caused a rather volcanic eruption which resulted in the re-adjustment in the Solvay schools. When, in March 1913, I was elected superintendent of schools of Solvay, I found several members of the Board of Education familiar with Monroe's thought-provoking book.

The progressive board had induced the school district to vote $225,000 to build two six-grade elementary schools, and had outlined and placed before the people at a large public meeting the various steps that they hoped to take.

The foreign-born population of Solvay had caused in the Solvay schools a marked mal-adjustment, a result of the rigid, abstract character of the work of the primary grades. The first four grades were much overcrowded and contained many pupils eight to sixteen years of age who either spoke no English at all, or spoke very little of it. This crowded condition was such that the teachers could give no individual help to these pupils.

As a result of a visit to the schools before I took up my work, the Board of Education voted to give me four new teachers, three of whom were called "floating teachers" and one "unassigned" teacher.

For the unassigned teacher, I obtained Miss Catherine E. McCormick, an excellent method teacher, familiar with investigation, statistics and educational psychology. Her work has been to do whatever needed to be done,—to teach, to demonstrate, to supervise, to develop new subjects or methods of teaching, to use tests and scales, to keep all statistics, to conduct teachers meetings and to organize researches.

Immediate Steps Toward Re-adjustment

As a result of conferences with the principals of the elementary schools, tentative plans for re-adjustment were made during the summer, and put into operation in September, 1913. Pupils of normal age or only slightly retarded (Bachman scale) were kept in regular grade rooms. Special rooms were opened up for non-English speaking children; and for all others who were over-age, there were formed rapid-promotion rooms. The extreme departmentalization of the seventh and eighth grades was reduced, and the program of studies enriched.

Thorough-going changes were introduced into the high school, which had been a typical conservative institution, with a fair record for passing Regents examinations, but with little account being taken of those who did not take them.

Self-survey Undertaken

But these tentative reforms were introduced without adequate data. So immediately at the beginning of the fall term, Miss McCormick made a survey, covering the following points:

1. The percentage of retarded or over-age pupils.
2. The proportion of pupils who completed the elementary school.
3. How many of these continued into high school.
4. What proportion of pupils who entered our schools were graduated from high school.
5. The ratio between the pupils above the compulsory age limit and those below it.
6. The flexibility of the promotion interval.
7. The money waste from unnecessary non-promotion.
8. The attention paid to backward and to exceptionally bright children.
9. The kind and amount of help given to non-English speaking children.
10. The ability of the children to spell, write, compute and compose and to reason in arithmetic, geography, history and practical science and arts.
11. The attention given to the children's health and recreation.
12. The practical values of the courses of study, judged from the standard of social values.
13. The extent to which the instruction functioned at the pupils' homes and in the outside world.
14. Vocational Guidance and the opportunities for vocational training.
15. The diversity of educational opportunities to meet the naturally very diverse minds of twelve hundred children.

Co-operation of Community and Teachers

How to conduct the schools to remedy the conditions which the survey showed, was then made the basis for a series of meetings of principals and teachers, of the Board, and of one big public meeting. We have since been busy with endeavors to get co-operative action. An association of parents has been formed at each school, which holds meetings at regular intervals throughout the school year. Places in the programs are reserved for some school activities, folk dancing, chorus, or declamation, and for the presentation of some phase of school work by a teacher or board-member.

One of the most evident needs in a village, one-fourth of whose population was alien, was a night school. But there had been no provision made for it in the budget. When the teachers realized the situation, over one-third of them volunteered to teach without compensation, so that school was conducted three nights a week throughout the winter.

Public supervised playgrounds were opened the first summer for ten weeks, the expense being met by the Solvay Guild and the Solvay Process Co. Since then the District has provided each year money for playgrounds and playroom activities.

As part of its plan to educate the public in the new work we were doing, the Board issued the next spring its first annual report. This report set forth the standards previously referred to and explained our efforts to remedy the defects.

The school district very generously voted the money we needed to run our re-adjusted schools, but the increased tax-rate caused considerable dissatisfaction. Therefore, a rather active propaganda had to be undertaken in an effort to persuade the public that the money was being carefully expended and that the actual investments were wise. This led to a second report of the Board in 1915. This report was published as a yearbook, by far the larger part of it being given up to contributions by the teachers.

There has existed from the first the friendliest relations between the teachers and the superintendent of schools. As soon as the teachers got the stride of the new policy of the school system, they accepted the changes willingly, though they often meant greatly increased burdens. Pleasant human relations have been fostered by informal sociables, suppers, dances, Christmas parties and the formation of a Solvay Teachers Association.

Study classes at which the attendance is voluntary have been conducted sometimes with the superintendent, sometimes under the leadership of one of their own number. An adequate teachers' library of books and periodicals is furnished by the Board of Education, and most of the teachers subscribe to one or more educational magazines.

The kindergarten-primary committee under the chairmanship of Miss Fitzgerald, at present teacher of an atypical class, organized the curricula, content and method, of the kindergarten, and first and second grades. The difficult problem of arranging the transition work of the third grades, where formal education begins in earnest, was dealt with by the third grade teachers under Miss Cole, Principal of the Prospect School.

During the present school year there have been classes for senior-junior high school teachers on Monday afternoons from

September to December 1st. The general problems were how to study, supervised study, and provisions for individual differences.

Study classes were held one afternoon a week for the teachers of each of the elementary schools from December to April. The general project was the subject matter and method of the curriculum. Elementary teachers' committees are now revising the time distribution and the content of the grade arithmetic, history, geography and language courses of study.

At present weekly meetings of the junior high school teachers are held to study the problems of this organization. The general alertness of the teachers is shown by the attendance at these meetings of the senior high school teachers, and by the fact that eight sets of papers are sent each week to elementary teachers who want to study the question along with the class which they cannot attend. The group meetings are conducted as nearly as possible like the practicum periods of Dr. Kilpatrick of Teachers College.

The project for this class and the problems growing out of it may be of interest.

Project Junior High School

Problems: 1. Curriculum and method. 2. Discipline and school organization. The individual child. 3. How to study, supervising study. 4. The function of the school. 5. Prevocational education, educational guidance. 7. Differentiation vs. minimum essentials. 8. Standards of attainment. Credit for quality. 9. Fundamental philosophy and summary. 10. Socialized examination.

Organization of the Re-adjusted Schools

The arrangement on page 610 gives in small space the general organization of subjects and methods of the Solvay Schools.

The primary grades, kindergarten and grades 1 and 2, are essentially project, or self-expression grades. Play, motor activities, concrete number work, nature, story telling, reading have been learned by the pupils, without their being repressed by the formal learning process at all. The plan of work here was developed by a committee of teachers. Most of the formal education mastered at great expense of nerve force to teachers

Age	Grades	Basis of Instruction	Extent Departmentalized Teaching	What We Teach
4 to 7	K 1 2	Play	One teacher in all subjects.	Motor control, ability to follow direction, politeness. Oral composition, concrete number, writing, reading, including spelling of familiar words, nature study and geography.
8 to 10	3 4 5 6	Drill	Two and later three teachers, including specialists.	Facts and principles of geography and nature, and an interested familiarity with both subjects. Facts and processes of arithmetic (Courtis Standard Tests, Series B). Ability to spell 1000 words in common use (Ayres' Scale). Interested familiarity with such parts of literature and history as are suited to young children. Ability to manipulate tools and materials in drawing, basketry, wood-working, sewing, cooking, etc. Ability to write as well as Standard 60 of the Ayres' Scale for legibility, to write letters and simple themes, using correct forms, punctuation, and with good sentences and paragraphs. Ability to read aloud and compose orally before people satisfactorily. Fast silent reading for mastery of content. Fixed habits of hygiene, conduct, reading, etc.
12 to 13	7 8	Mind Bias or Natural Interests, Prevocational Training.	Three or four teachers	English, American history, general arithmetic, commercial and reasoning geography, music, shop, cooking, sewing, drawing, much the same for all departments of the intermediate school. German, algebra, geometry in academic department. Commercial forms, bookkeeping, typewriting in business department. Shop mathematics, shop-work, shop science, shop drawing for practical arts department. Sewing, cooking, related arithmetic, science and design for household arts department. State-aided vocational courses in general industry and home-making.
14	9		Four or five teachers	Readjustment year, offering all the high school subjects taught in the intermediate school for pupils who wish to change courses.
15 to 17	10 11 12	Serious Vocational Preparation for College, Normal School, Office Industry and Home.	Four or five teachers	Literature, oral and written composition, rhetoric, mathematics, languages, science, history, civics, stenography, typewriting, penmanship, office practice, economics, commercial geography, business, law, salesmanship, cooking, drawing, music, dressmaking, millinery, carpentry, machine-shop practice, sheet metal work, forging, etc.

and pupils in the primary grades, has to be learned in the third grades, anyhow. The amazing thing is that our pupils with so little formal drill work in the primary grades have rather more power to read and write and master concrete social situations involving arithmetic than the children who are transferred to us.

Literature is rigidly divorced from formal English and mechanics of reading; silent reading is encouraged, there is an abundance of supplementary reading books in each room in sets of five, which are read by the pupils to the class, or by the pupils silently.

The division of the subject matter and its organization in each subject for each half year and the lists of minimum requirements in formal subjects are being revised by the elementary teachers. A chairman is chosen by the teachers in each school, and she is privileged with drafting the services of those who are interested in the subject. This task was not left with them, however, till I had led a reading class with them.

Serious school work begins with us in the third grade. By "serious school work," I mean that from this grade on, the children learn lessons, master processes, gain power, memorize facts, according to a regular course of study with minimum requirements for each half grade. Much of the work is still planned with a definite idea of appeal to the child's inherent interests. But some of it is given simply on the authority of the teacher and the text-book. Discipline becomes rigid. Drills are the order of the day, artificially motivated by means of graphs for individuals and classes by which the work of each can be compared with standards.

It may be of interest to know just how we use these standards and other tests to motivate the work of individuals and classes.

The Courtis arithmetic, Ayres spelling, and Ayres writing standards are charted on cross section paper for each room with a continuous red line. In September, January, February and June, the class median score is placed on this chart. Each pupil has in his desk his own graph, compared with the class graph and the standards. Each one knows wherein he is preventing the class from reading standard score, and how much he needs drill on certain processes.

No charge of inefficiency in fundamentals can be sustained when one can at any time show how the median score for 7th grade Business Course for example compares with Courtis standards.

	Addition	Subtraction	Multiplication	Division
Courtis Standards	11	11	10	10
Solvay Scores	9.9	12.5	8.5	9.1

When one considers that the Courtis standard is perfect accuracy for median speed, and that 5 to 10% of an untrained class ordinarily reaches it, the work of the school must be considered satisfactory.

In this connection attention may be called to an experiment by which spasmodic drill in arithmetic was compared with daily drill where the total number of minutes used for drill was the same.

On October 20th and 21st, 1913, Courtis tests, series A, were given in grades 4, 5 and 6 at the Prospect and Boyd elementary schools. For the next twelve weeks the Boyd teachers gave arithmetic drill spasmodically, 45 minutes a day for two weeks, and none for the next four weeks; while the Prospect teachers, gave fifteen minutes a day for all twelve weeks. Each drilled the pupils a total of 900 minutes.

In January the tests were given again, after which the schools reversed the drill methods, the Prospect giving drill spasmodically and the Boyd giving daily drill for twelve weeks, when the tests were given again. The methods used were the same at each school. Between the first and second tests (October to January) the growth from spasmodic drill seemed to have the advantage, though not a decided one. The check test again showed the superiority of the spasmodic method.

For the past two years similar experiment has been carried on in the fifth and sixth grades to determine the relative value of two devices for teaching handwriting. At school No. 1 the Palmer manuals were followed explicitly, at school No. 2, while position was insisted upon, the method was that of correcting, rather than developing, letter form, size of letters, spacing, quality of line and uniformity of slant. That is, the pupil who made "w" incorrectly was drilled on writing "w" and words containing "w." In the same way other errors of spacing, quality of line, size and slant were treated specifically.

This comparison was not very satisfactory due to the fact that measuring was done by different persons using Ayres scale, and because of the fact that there could be no check test,—that is, we could not alternate the schools. The results are given for what they may be worth.

	Feb. '15	June '15	Sept. '15	Jan. '16	Av. growth	Standard
School 1, Grade 5...	63.3	72.2	69	71.9	5.9	54.5
School 2, Grade 5...	51.6	73.3	59	62	11.85	
					difference	5.95
School 1, Grade 6...	71.3	77.6	63.7	77	6.5	58.5
School 2, Grade 6...	70.2	76.7	60	67	6.75	
					difference	2.5

Normal drill in the language and arithmetic is given spasmodically. Those drills are grouped in two divisions,—group 1 includes spelling, arithmetic and good usage; group 2, oral and written composition and mechanics of reading. The theory of this drill group arrangement is that drill to be effective requires fresh minds, a certain zest that comes with newness.

By means of H. A. Brown's reading tests, we measured silent reading ability of the pupils of the junior high school. The following chart shows that there is a direct correlation between low scholarship and poor silent reading ability. It was also shown that while good oral readers tend to be good silent readers many of the best oral readers are very poor silent readers.

	Division in Scholarship		
Silent Reading Ability (words per minute)	A	B	C
110–215	14 38%	13 35%	10 27%
66–110	19 23%	22 38%	17 29%
0–66	15 17%	35 41%	36 42%

Figure I

Rapid-Promotion Rooms

One of the most radical undertakings has been our "strong arm" method of reducing the number of over-age pupils. In each elementary school, all mental defectives and mentally retarded pupils are segregated in special rooms. All pupils over seven who cannot read, write and speak English are put into rooms where especially equipped teachers help them to master the new language.

All mentally normal over-age pupils who are eight years old are put in the third grade. All mentally normal over-age pupils who are twelve and a half are transferred to the 7-1 grade.

Between these ages, mentally normal retarded pupils are put into rapid-promotion rooms where they receive much individual help in arithmetic. The only question asked is this, "If the pupil is promoted, will he be able to do the work of the next grade?"

This simplifies the problem immensely; for much of the work of a grade,—the formal language work, the literature, the nature study, physiology, manual arts work, music and drawing,—while most valuable and important, is not essential to the pupil's power to do the work of the grade above.

What subjects are necessary for the promotion of our over-age children? Clearly, they are reading in the primary grades; and arithmetic and the minimum facts of geography in the grammar grades. On these alone and upon the spirit of earnestness always present, depend promotion in the rapid-promotion classes.

This does not mean that the other studies are slighted. Far from it! But they do not affect, materially, the power of the pupil to do the work of the next grade, and so they are not considered "promotion subjects," in the rapid-promotion rooms.

A typical rapid-promotion room may contain pupils from grades 4^1, 4^2, 5^1, 5^2, and 6^1. The distribution of recitations would be as follows:

Individual instruction,—arithmetic, and sometimes spelling and reading.

Each sub-grade by itself,—arithmetic.

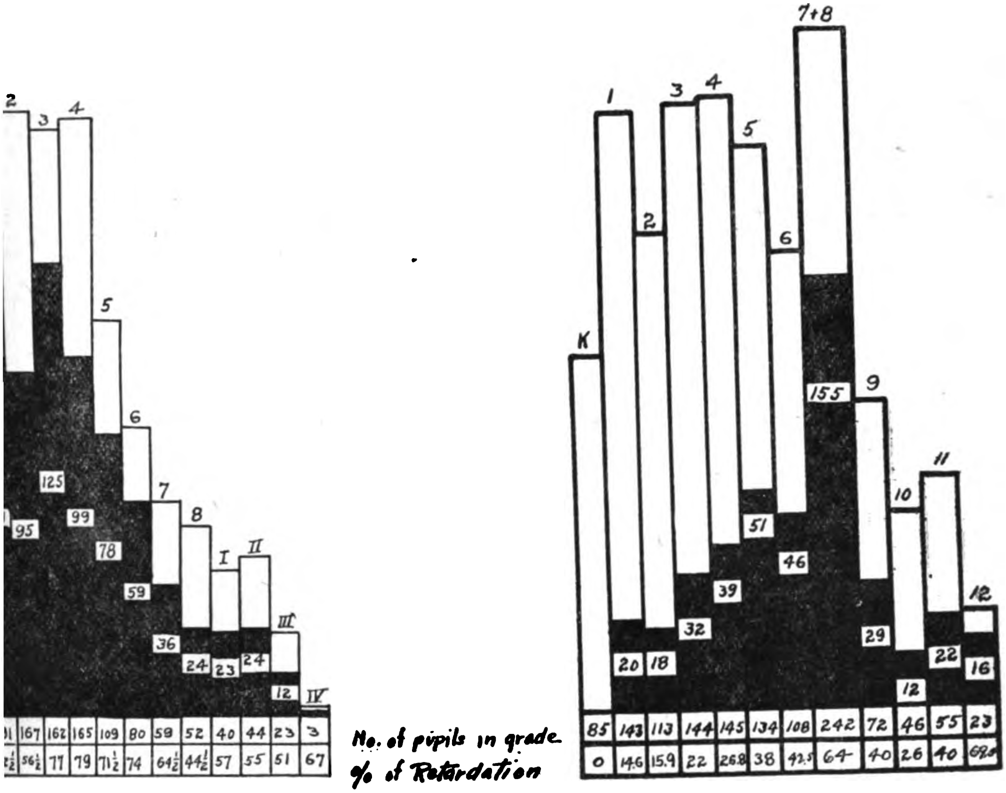
Two or more grades together,—geography and mechanics of reading.

All grades together,—formal language (spelling, good usage, oral and written composition, dictionary drill), literature, practical science, music, drawing, manual work.

Floating teachers take charge of the nurture subjects as music, drawing, nature study, practical arts, and geography in these rooms, giving the room teachers nearly one and a half hours a day to give individual instruction in the school arts to the pupils who can profit by the help.

The isolation of retarded pupils in rapid-promotion rooms means several advantages:

1. Teachers with a social view-point and infinite patience can be given charge of these rooms.
2. The pupils are permitted to advance very rapidly till they gain the grade for which their ages fit them.
3. Much individual help can be given to the pupils who most need it.



SEPTEMBER 1913

FEBRUARY 1916

FIGURE II

te how the congestion of over-age pupils (in black) in the primary grades has been relieved, and the growth of the junior-senior high school

4. Retarded pupils are not obliged to sit and recite with younger children: hence, they are less liable to be classed as dunces and ringleaders, and they do not suffer the indignity of failing where younger children succeed.

5. Most important perhaps, the regular grades are wholly relieved of retarded pupils. An even-aged grade is a blessing that only a teacher who has had a grade where pupils' ages vary from eight to fifteen can appreciate.

The standard of the rapid-promotion room is this: What is best for the boy and girl? Promotion is not a reward for work done, nor is non-promotion a punishment for idleness or misbehavior; the whole question is one of adjustment of the child to his needs.

But what of the pupils who are transferred into grades 3–1 and 7–1? They enter small classes, are given adaptable, sympathetic, resourceful teachers, and emphasis is put on the power subjects essential for promotion.

DIAGRAM. DISTRIBUTION OF PUPILS

(*See Page 32, Solvay School Report, 1915–16*)

The following data give a good idea of what happens to mentally normal, over-aged children who are transferred to the grades which fit their ages. The total number of pupils who were transferred to 3–1 grade in the last year and a half was 111, of whom 7 have moved and only 1 has not made 3–2 grade. The distribution before they were transferred to 3–1 and what has happened to them since is given in a combined statement below.

Grade	Transferred to 3–1	Made grade 3–2 in 1 term	2 terms	3 terms	Not yet	Left or Moved
1–1	10	2	5	3	0	0
1–2	13	4	7	1	1	0
2–1	22	14	4	0	0	4
2–2	66	58	4	1	0	3
	111	78	20	5	1	7

Seventy-nine pupils have been transferred into the 7th grade from lower grades. A distribution before they were transferred to 7–1 is given below as well as how long it took them to make 7–2.

Grade	Transferred to 7–1	1 term	2 terms	3 terms	Not yet	Left or Moved
4–1	2	2	0	2	0	0
4–2	7	2	0	1	2	2
5–1	10	0	1	1	6	2
5–2	6	0	5	1	0	0
6–1	17	1	8	1	1	6
6–2	35	10	15	5	2	3
	79	13	29	11	12	14

The Schools and the Foreign-born

Because of the industrial conditions existing in Solvay, employment is furnished large numbers of unskilled as well as skilled men. To meet this demand for unskilled labor many untrained foreigners from many lands have come here thinking to find work and to better their living conditions.

All children above kindergarten age who are unable to speak or understand English sufficiently well to take the work of regular grades, are placed in special classes. The children range from 6 to 17 years of age though there have been several cases of young men from 18 to 24 years of age who, being temporarily out of work, applied for admission into the class.

A disproportionately large number of children of foreign-born parents are found in the class for defectives. This is partly due to childhood diseases and physical defects which are hard to have corrected by the parents. The work in this room is like that of similar rooms in progressive school systems.

By availing himself of the means provided by the school, the foreign child may enter school understanding no English whatever and leave a few years later, having acquired not only a knowledge of English and other related subjects, but in addition he may have received a technical training which fits him to enter the industrial field at least partly equipped to meet its demands for practical skilled workers. Many pupils of foreign parentage enter the business and academic courses of the junior high schools chiefly children of Italian and Austrian parentage, but most of them wisely choose to spend the few years before their parents send them to work, in the practical arts and household arts courses.

Besides providing these means for training the children in the day school, the evening school gives the parents and older brothers and sisters an opportunity to improve their English or to continue other lines of work dropped on leaving school. The needs of the immigrant are here met by the several classes under competent teachers, in which they are taught to speak and read English, write and spell, with the fundamentals of arithmetic, civics, preparation for naturalization and for civil service examinations.

The classes in cooking and sewing are conducted by teachers of practical experience and are well attended by foreign girls who, by applying American methods of doing housework and cooking American dishes and by introducing American manners of eating in their own homes, may do something to offset the tendency of the young men of the family to eat their meals at the lunch carts or "cafes." The Italian peasant home organization transplanted into American city life, utterly fails to hold the men-folk.

A Socialized Elementary School

The Boyd School represents a pretty well socialized six grade elementary school as the accompanying diagram shows:

The diagram omits the school nurse who conducts a baby-saving station in the summer time and who has the regular school nurse duties from October to June. The diagram also fails to take note of the thriving school banks maintained in the elementary, school. During the current month $103.00 was deposited in the Boyd school-bank. It omits too, the varied community uses of the school buildings by local orchestras, basketball teams, camp-fire girls, boy scouts, the Grange, and for local entertainments.

The purpose of the socialized elementary school is the increase of the kind of general intelligence that functions in civic and economic relationship for the whole community. It must compete with the street corners, with poverty, with the saloons, with the pool-rooms and the public dance-halls; it must meet the problems of an unclean milk supply, the huddling un-Americanizing tendencies of crowded tenements, the tendency to spend wastefully, the disregard of dirt, the yellow paper sex-novel, the use of the street as a play-ground, lack of nourishment; it must struggle with vocational inefficiency, social and individual inertia, religious and racial antagonisms, and other potentially dangerous conditions, physical, mental and moral. This is a large order; but education is the only permanent solution of the problem.

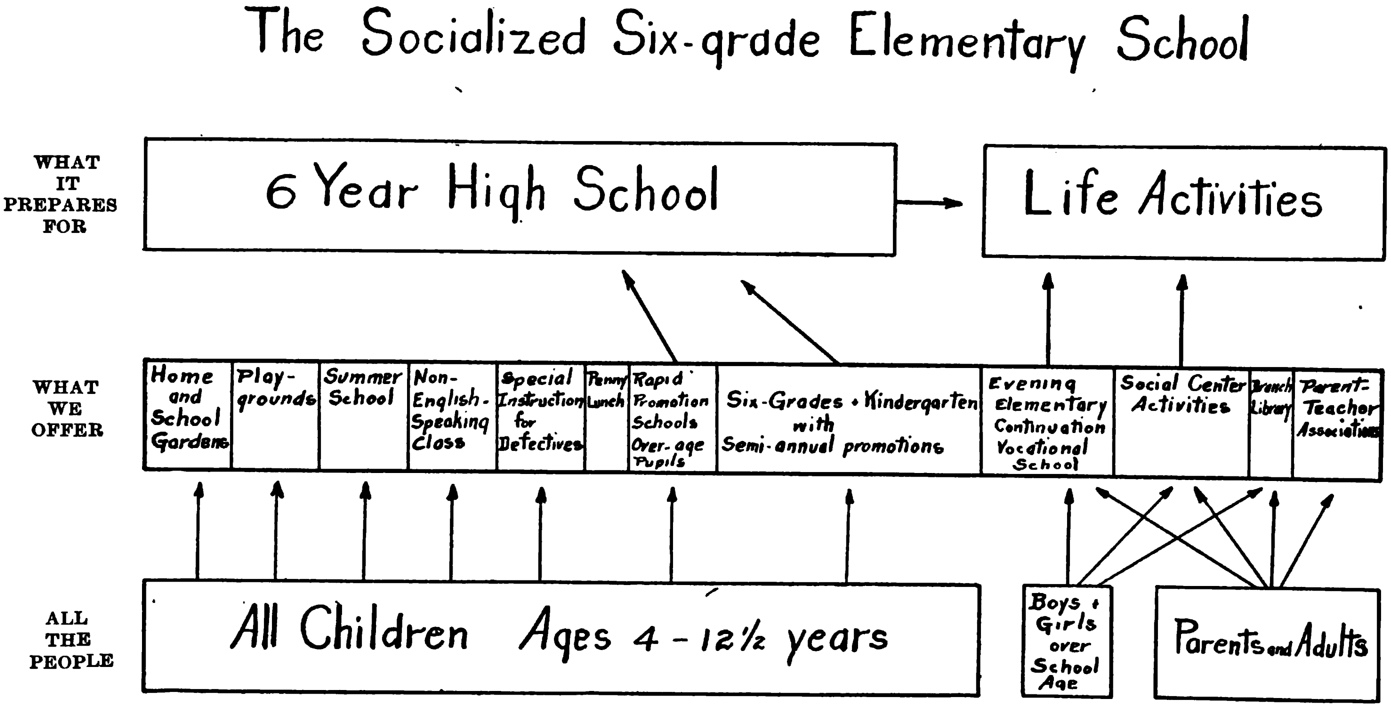

The Socialized Six-grade Elementary School
WHAT IT PREPARES FOR
6 Year High School
Life Activities
WHAT WE OFFER
Home and School Gardens
Play-grounds
Summer School
Non-English-Speaking Class
Special Instruction for Defectives
Penny Lunch
Rapid Promotion Schools Over-age Pupils
Six-Grades + Kindergarten with Semi-annual promotions
Evening Elementary Continuation Vocational School
Social Center Activities
Branch Library
Parent-Teacher Associations
ALL THE PEOPLE
All Children Ages 4 - 12½ years
Boys + Girls over School Age
Parents and Adults

FIGURE III

The elementary play-grounds are conducted on the school grounds from July to September, with a teacher and an assistant in charge. Shower-baths are always urged, and often insisted on. In case of rainy weather, the play-rooms are used. The "play-work" of many summer schools is done on our play-grounds. Our summer schools which are conducted at each elementary school from the first of July till the middle of August, do serious school work resulting in the saving of a half year of school for many of the children who attend.

The Boyd play-room is open Monday evenings for young women, on Tuesday evening for girls, on Wednesday and Friday for boys and young men, and on Thursday evening and Saturday afternoons for dancing. The branch library is open three afternoons and evenings resulting in a greatly increased use of library books.

The Junior High School

The junior high school is for everybody who can profit by the work. Admission to the academic and business courses requires that the equivalent of sixth grade work be done. Admission to the household arts and practical arts courses is permissive, not compulsory, at 12½ years of age. The junior high school is an institution for testing pupils out, for educational guidance, vocational preparation, for social experience, for economy of time and for reduction of elimination.

There is a broad common basis of knowledge obtained in all courses, in literature, history, arithmetic, practical arts, and appreciation of art and music and science.

Although the conventional terms and divisions have been retained, the purposes of the instruction have modified the curriculum, somewhat, both in distribution of content and in method, to satisfy these aims of secondary education:

I. Social-civic aim:
   1. Work of the World—commerce, industry, social organization.
   2. Emotional teaching of history, to develop a right attitude toward tradition, to recognize that progress comes through change, to enlarge the social sympathies.

II. Economic vocational aim:
   1. Formal education. Minimum essentials based on social tests and investigations.
      a. Formal English.
      b. Arithmetic.
      c. History.
      d. Geography.
   2. Educational and vocational guidance and practical training of a prevocational standard.

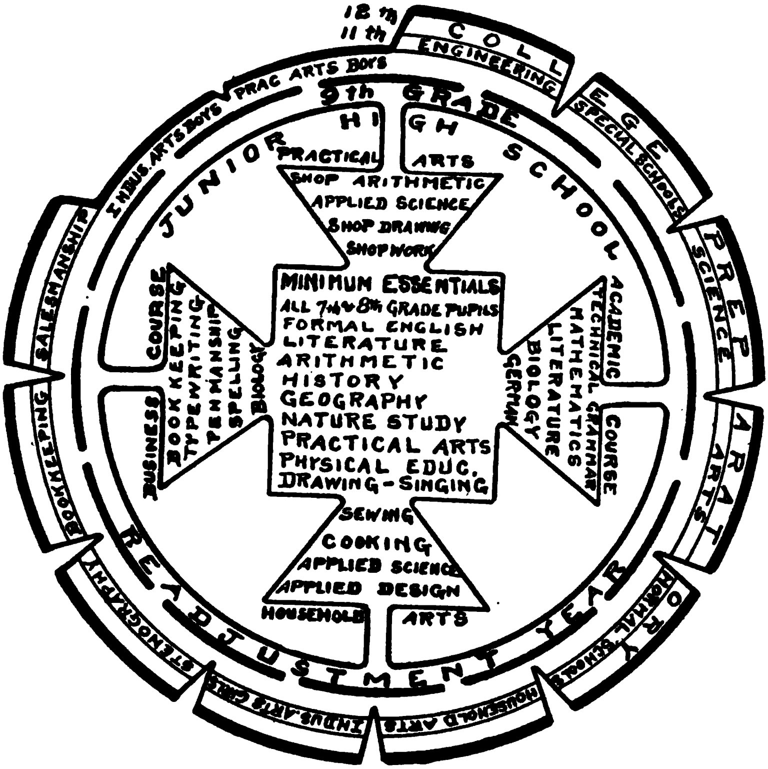
III. Avocational personal aim:

1. Appreciation of literature, music, art.
2. Practical arts and elementary science.
3. Adornments, foreign language, mathematics, music, drawing.

IV. Physical aim:

Habits and knowledge of personal hygiene and public sanitation.

Of course these divisions overlap; there is an overflow from each subject which satisfies all four aims.



Not differentiation *versus* minimum essentials, but differentiation AND minimum essentials. Note that all 7th and 8th grade pupils master the same minimum essentials, and so far as possible, recite together in their common subjects.

FIGURE IV

Re-adjustment Year

The work of the 9th grade or re-adjustment year is a recapitulation of the high school work done in the intermediate school. In this year are offered general mathematics, elementary bookkeeping, German, current history, biology, general science, shopwork, cooking, sewing, mechanical drawing and design so that a pupil who wants to change courses can make up here whatever he missed in the intermediate school. To make this somewhat simpler, let us take a concrete case. A entering the 7th grade elected the household arts course and later decided to take up college preparatory work in the senior high school, she would have taken in the intermediate school, general science, cooking and sewing, but no biology, general mathematics or German. These she would get in the re-adjustment year.

But suppose B who was going to college took the academic course in grades 7 and 8 and had done good work. She would have completed enough German, general mathematics, biology and current history to get credit for them in high school. Therefore, if her English grades sanction it, she would immediately become a senior high school (tenth grade) pupil in full standing.

Conversely, if A had continued in the industrial or household arts course in the senior high school, and if B had changed from academic to household arts, then B would be obliged to take general science, cooking and sewing in the re-adjustment class, while A would have entered the sophomore class.

It should be kept in mind that pupils may change at the end of any half-year for another course with the consent of their parents and home-room teacher. In spite of our gentle process of suggestion, some pupils elect for social reasons the commercial or academic courses who are quite unable to make anything of of them. These are transferred when they have demonstrated their unfitness for the work. More and more, the brightest of the pupils are electing the practical courses, seeing therein the training that will best fit them for the life they must soon enter. This change of attitude has come about as teachers and parents have begun to realize that the choice is not permanent, that if the boy shows talent for abstract work we will transfer him to the academic course, without loss of much time.

Senior High School

The Senior High School is *not* for everybody. It is for those who have a purpose, who are aiming somewhere, and who want to work up to the limit of their capabilities. There are offered four preparatory courses for the various regents' diplomas. The instruction in these courses is aimed at the upper tertile. We regard our college preparatory work as essentially selective, eliminating those 16–18 years old pupils who cannot or will not do the work.

There are offered practical arts and industrial arts courses for boys. The former course merges with the engineering college preparatory course, the latter stops at the end of the tenth grade, and the boy is helped to obtain a position where he can use what we have given him.

There are offered three year courses in household arts and industrial arts for girls. The graduates of the latter course are in great demand by the milliners and dressmakers and the alteration departments of the department stores of Syracuse.

In the commercial branches, there are offered three courses. For the stenography and bookkeeping courses, the girls are required to have done at least two weeks actual practice in a business office. Most of them work four, six or eight weeks during the summer after their third year in school. School credit is given for this practical work.

The salesmanship pupils work on Saturdays in the large department and clothing stores of Syracuse. We have at present ten pupils working Saturdays; most of these pupils were excused from school to work every day during the three weeks before Christmas.

An appointment and follow-up bureau is being organized and co-operative agreements or understandings are in force with all the large employers of labor in Solvay and in the neighboring parts of Syracuse.

A spirit of camaraderie between teachers and pupils has been fostered by means of informal parties, receptions and outings. At Thanksgiving and Christmas and at other times of the year, the pupils raise money and purchase supplies for many needy poor whom the poor master and associated charities would never find.

Our vocational boys and girls are called upon to do a great amount of very interesting social work. Twenty-five woolen night clothes and nine woolen dresses have been sent to the Belgian Relief headquarters. Children's night clothes are being made in great quantities for the Women's and Children's Hospital. Large dolls were embroidered and stuffed at Christmas. A girls' club for the younger girls in West Solvay was organized by some of the pupils from the household arts course.

Lunches were cooked and served to twenty odd teachers and sixty to a hundred pupils each noon by these girls. Special lunches for invited guests, little parties, and course dinners are given on special occasions. Two girls from the homemaking course are assigned each week to help prepare and serve the penny lunches at Boyd School. Girls are now to be assigned to assist in the Day Nursery, and on occasion to help the school nurse in her duties.

The boys build great quantities of furniture for their homes, for sale, and for the school. They do the electric wiring, the repairing, the refinishing for the school. We have power-machinery and duplicate shop conditions in a studied way to some extent in both vocational courses. We are bound that our pupils shall learn to do by doing *now*.

A High School library is maintained with a trained librarian. The study hall is under teachers who have taken with me a special reading and practice course in the supervision of studying.

Compulsory after-school sessions are carried on three days a week for loafers only. Others may attend voluntarily. We aim to make it more disagreeable to loaf than to work.

The limits of this paper make it impossible to enter into detail concerning these maters of re-adiustment. If I have been able to indicate the general purpose or spirit of the Solvay Schools, it is sufficient.

Some Aspects of School Health Supervision

Joseph Schapiro

New York

1. PRESENT EXTENT OF SCHOOL MEDICAL INSPECTION IN U. S.

IN 1906, Massachusetts was the first state in the Union to make medical school inspection mandatory. Since then, according to the last report of the U. S. Bureau of Education, twenty-six states in all have established by law some form of medical school inspection, Wyoming being the last to enter the fold in 1915 in the interests of child health conservation. Table I shows when such medical school inspection law was established, whether it is permissive or mandatory, by whom administered, and the scope of its application.

The four classifications referred to in the table are as follows:

I. Examinations for the detection of physical defects of school children conducted by school teachers. Usually limited to sight and hearing.

II. Examinations conducted by physicians for the detection of communicable diseases.

III. Inspections conducted by physicians for detection of contagious diseases, combined with physical examination for the detection of physical defects.

IV. Systems combining examination by teachers for detection of defects of sight and hearing and examination by physicians for contagious diseases and for physical defects other than sight and hearing.

"The state, to provide for its own protection, has decreed that all children must attend school, and has put in motion the all-powerful but indiscriminating agency of compulsory education, which gathers in the rich and poor, the bright and the dull, the healthy and the sick. The object was to insure that these children should have sound minds. One of the unforeseen results was to insure that they should have unsound bodies."[1] When the state compulsory education law was passed it was presumed by the framers of the law that the parent or guardian was well able to supervise the health of his children. Herbert Spencer[2] pointed out many years ago, that it was the duty of the state to feed and clothe the children, and to supervise and care for their

TABLE I*

A brief classification of the laws pertaining to medical inspection in schools

States	When Adopted	Permissive or Mandatory	Classification	By Whom Administered	Applies Where
California	1909	Permissive	I	School authorities	Where adopted
Colorado	1909	Mandatory	I	School authorities	All public schools
Connecticut	1907	Permissive[1]	II	School authorities	Where adopted
Delaware		Permissive			
Florida	1915	Permissive			
Georgia		Permissive			
Idaho		Permissive			
Indiana	1911	Mandatory, 1913	IV	School authorities	All public schools
Louisiana	1911	Mandatory	I	Health authorities	All public schools
Maine	1909	Mandatory as to sight and hearing	IV	By not more than 1000 pupils to physician	Cities and towns of less than 40,000 population
Maryland	1914	Permissive	IV	School physicians, appointed by county school board	
Massachusetts	1906	Amended, 1910; mandatory	IV	School authorities	All public schools
New Hampshire	1913	Permissive	IV	School authorities	Where adopted
New Jersey	1909	Mandatory	III	School authorities	All public schools
New York	1910	Mandatory, 1913	IV	School authorities	All public schools, except cities of 1st class
North Carolina	1911	Permissive[2]	IV	County health authorities	
North Dakota	1911	Mandatory on petition	III	School authorities	Where adopted
Ohio	1909	Amended, 1913; permissive	III	School or health authorities	Cities, villages, or townships
Pennsylvania	1911	Mandatory in district 1st and 2d class; permissive 3d and 4th class	III	School authorities	All public schools, where adopted in 3d and 4th class districts
Rhode Island	1911	Mandatory as to sight and hearing	IV	School authorities	All public schools
Utah	1911	Mandatory	IV	School authorities	All public schools
Vermont	1910	Mandatory when voted by towns	IV	School authorities	All public schools
Virginia	1910	Permissive	III	School authorities	Cities of 1st class
Washington	1909	Permissive	III	School authorities	Cities of 1st class
West Virginia	1911	Mandatory in cities; permissive in country districts	III	School authorities	Cities, and where adopted in country
Wyoming	1915	Mandatory	I	School authorities	All public schools

health, if the state took upon itself the duty of educating them. No reformer since his time has wrought more changes in the system of education than this great philosopher. But we have also witnessed the advent of these changes, the corollary of compulsory education,—compulsory disease.

3. DISEASES AND DEFECTS INCIDENT TO SCHOOL-LIFE

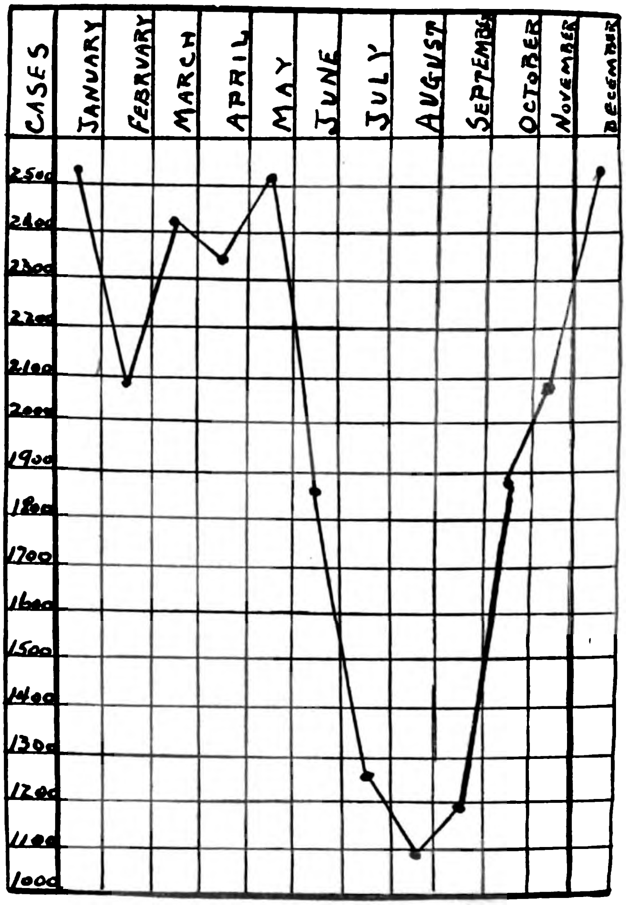
Ruhrah[4] claims that measles is most frequently transmitted through schools and that the majority of cases of mumps occur in children between five and fifteen years of age. McCollom[5] has shown conclusively that the majority of cases of scarlet fever occur in children of school age. Table II[6] shows the age incidence in 5000 hospital cases of scarlet fever, with percentages for certain age groups, thus proving conclusively the prevalence of this disease during school-life. It is of interest to note in the following chart showing 23,835 cases of scarlet fever in Boston

TABLE II[*]

Showing Age Incidence in 5000 Hospital Cases of Scarlet Fever, with Percentages for Certain Age Groups

Age in Years	Cases	Per Cent.
Under 1	42	
1 to 2	182	
2 to 3	381	
3 to 4	569	
4 to 5	551	
Under 5	1725	34.5
5 to 6	557	
6 to 7	522	
7 to 8	424	
8 to 9	323	
9 to 10	250	
10 to 11	202	
11 to 12	143	
12 to 13	120	
13 to 14	81	
14 to 15	48	
15 to 18	125	
5 to 18	2795	55.9
18 to 23	245	
Over 24	235	
Over 18	480	9.6
Total	5000	100

[*] McCollom, John H. "Osler's Modern Medicine," Vol. II, Chap. XII, p. 338, Lea Brothers & Co., 1907.


CASES
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000

reported to the Board of Health for the fifteen years[6] from 1890 to 1904, inclusive, and arranged by months, that "during July and August when the schools are not in session, the number of cases is very much less than during November, December and January; the increase commences in September and there is very marked increase from September to October, from October to November, from November to December; December and January are practically the same. There is a diminution from January to February, but no perceptible diminution in March, April and May as compared with February. The number reported for the months of June in these fifteen years was 1863, while the number reported for the months of October for the corresponding year was 1883, practically the same, so that meteorological conditions can have no particular influence, except indirectly."[6]

The figures in Table III from the annual report of the Department of Health of the City of New York for the year 1914 show the prevalence of contagious diseases common in children of school age for the entire city during that year. Table IV shows the number of physical defects found in school children of the same city from 1909 to 1914, inclusive.

TABLE III *

Showing Number of Cases of Contagious Diseases Reported for New York City in 1914

Cases reported	Number of Cases
Smallpox	24
Measles	25,793
Scarlet Fever	11,105
Whooping Cough	3,798
Diphtheria	17,129
Mumps	4,449
German Measles	927
Chickenpox	9,732
Total	72,957

* From the Annual Report of the Department of Health of the City of New York for the year 1914.

TABLE IV *

Medical Inspection and Examination of School Children

Physical Examination of School Children—Non-Contagious Physical Defects Found and Treated

	1914					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	308,595	114,350	47,538	111,292	28,201	7,214
Number found needing treatment	221,632	86,462	33,106	80,185	16,525	5,354
Number with other defects than of teeth only	91,481	36,666	14,672	32,044	6,801	1,298
Number with defects of teeth as only defect	130,151	49,796	18,434	48,141	9,724	4,056
Percentage of those examined needing treatment	71%	76%	70%	72%	59%	74%
Defects found:						
Defective vision	27,534	11,497	4,008	9,860	1,785	384
Defective hearing	1,899	514	408	720	209	48
Defective nasal breathing	28,877	11,735	5,130	9,778	1,958	276
Hypertrophied tonsils	36,153	14,808	5,500	11,956	3,446	443
Pulmonary disease	589	194	240	82	70	3
Cardiac disease	3,980	1,560	623	1,475	281	39
Nervous affections	1,970	862	327	567	193	21
Orthopedic defect	1,855	731	232	728	136	28
Malnutrition	16,181	6,815	2,961	5,248	1,035	122
Defective teeth	187,545	76,730	27,333	66,345	11,886	5,251
Number reported treated	81,569	35,090	11,889	25,922	6,302	2,366

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* Figures compiled by Dr. S. Josephine Baker, Director Bur. Child Hygiene of the Department of Health of the City of New York, Monograph Series No. 4, January, 1915.

TABLE IV (Continued)

	1913					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	330,179	130,646	35,369	126,643	26,178	11,343
Number found needing treatment	230,432	95,638	24,424	87,919	13,711	8,740
Number with other defects than of teeth only	97,615	40,952	10,332	36,492	7,176	2,663
Number with defects of teeth as only defect	132,817	54,686	14,092	51,427	6,535	6,077
Percentage of those examined needing treatment	69%	73%	69%	69%	52%	77%
Defects found:						
Defective vision	27,629	12,528	2,673	10,019	1,561	848
Defective hearing	1,645	518	257	625	153	92
Defective nasal breathing	29,057	11,950	3,574	11,352	1,705	476
Hypertrophied tonsils	36,958	14,964	3,682	13,948	2,837	1,527
Pulmonary disease	590	258	161	129	38	4
Cardiac disease	2,556	1,148	279	946	129	54
Nervous affections	1,446	756	242	348	69	31
Orthopedic defect	1,490	508	177	594	72	139
Malnutrition	13,991	6,256	1,411	5,427	530	367
Defective teeth	194,207	90,342	16,456	71,360	6,521	9,528
Number reported treated	55,069	24,398	6,698	19,087	3,712	1,174

TABLE IV (Continued)

	1912					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	287,469	127,502	33,297	104,277	18,339	4,054
Number found needing treatment	206,720	96,658	23,546	73,951	10,328	2,237
Number with other defects than of teeth only	87,361	40,517	10,169	30,548	5,285	842
Number with defects of teeth as only defect	119,359	56,141	13,377	43,403	5,043	1,395
Percentage of those examined needing treatment	72%	76%	71%	71%	57%	55%
Defects found:						
Defective vision	21,078	11,096	2,182	6,521	1,093	186
Defective hearing	1,206	395	215	389	192	15
Defective nasal breathing	21,931	10,941	2,612	6,117	2,102	159
Hypertrophied tonsils	30,021	14,094	2,722	9,945	2,724	536
Pulmonary disease	335	155	101	67	11	1
Cardiac disease	1,597	717	248	563	61	8
Nervous affections	915	594	160	118	35	8
Orthopedic defect	721	271	109	266	47	28
Malnutrition	8,303	4,354	853	2,791	248	57
Defective teeth	142,168	72,577	14,864	48,729	4,543	1,455
Number reported treated	58,312	30,228	8,661	16,076	3,093	254

TABLE IV (Continued)

	1911					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	230,243	104,023	18,507	90,403	13,184	4,126
Number found needing treatment	166,368	82,278	12,319	61,195	7,910	2,666
Number with other defects than of teeth only	75,857	40,801	6,177	24,257	3,418	1,204
Number with defects of teeth as only defect	90,511	41,477	6,142	36,938	4,492	1,462
Percentage of those examined needing treatment	72%	79%	67%	68%	60%	65%
Defects found:						
Defective vision	24,514	14,466	1,524	7,259	904	361
Defective hearing	1,491	650	216	476	101	48
Defective nasal breathing	27,316	15,324	2,456	7,450	1,854	232
Hypertrophied tonsils	34,639	17,713	2,233	12,228	2,145	320
Pulmonary disease	483	260	128	81	14	
Cardiac disease	1,661	829	134	617	35	46
Nervous affections	861	438	127	240	31	25
Orthopedic defect	1,190	562	98	441	37	52
Malnutrition	5,845	4,049	349	1,276	71	100
Defective teeth	135,843	71,036	6,701	51,056	5,090	1,960
Number reported treated	65,150	38,710	4,324	19,155	2,084	877

TABLE IV (Continued)

	1910					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	266,426	135,001	19,848	92,103	16,323	3,151
Number found needing treatment	196,664	108,230	13,839	63,291	8,641	2,663
Number with other defects than of teeth only	101,602	59,143	7,571	27,722	5,435	1,731
Number with defects of teeth as only defect	95,062	49,087	6,268	35,569	3,206	932
Percentage of those examined needing treatment	74%	80%	31%	69%	53%	84%
Defects found:						
Defective vision	29,634	19,334	1,582	6,986	1,005	727
Defective hearing	1,519	641	185	533	112	48
Defective nasal breathing	40,946	24,203	3,701	10,418	2,172	452
Hypertrophied tonsils	50,012	26,735	4,086	15,107	3,461	623
Pulmonary disease	656	333	201	88	32	2
Cardiac disease	2,370	1,226	217	752	105	70
Nervous affections	951	493	166	175	47	70
Orthopedic defect	1,683	909	158	402	66	148
Malnutrition	8,691	6,148	578	1,591	80	294
Defective teeth	164,250	92,144	11,042	53,339	5,602	2,123
Number reported treated	64,861	36,322	5,838	19,458	2,594	649

TABLE IV (Continued)

	1909					
	New York City	Manhattan	The Bronx	Brooklyn	Queens	Richmond
Number of physical examinations made	231,081	105,999	19,981	89,451	11,295	4,355
Number found needing treatment	172,112	90,463	13,709	58,279	6,391	3,270
Number with other defects than of teeth only	102,150	60,828	8,266	26,515	4,646	1,895
Number with defects of teeth as only defect	69,962	29,635	5,443	31,764	1,745	1,375
Percentage of those examined needing treatment	74.48%	85.34%	65.15%	68.61%	56.58%	75.09%
Defects found:						
Defective vision	30,408	18,216	2,157	8,367	932	736
Defective hearing	2,340	1,105	259	773	109	94
Defective nasal breathing	43,393	29,681	3,423	7,898	1,809	582
Hypertrophied tonsils	50,934	29,189	4,248	13,932	2,801	764
Pulmonary disease	744	426	162	98	50	8
Cardiac disease	1,503	798	181	456	32	36
Nervous affections	940	578	187	115	16	44
Orthopedic defect	1,461	1,018	67	290	50	36
Malnutrition	7,249	5,120	619	1,332	43	135
Defective teeth	131,747	69,231	9,968	47,015	2,865	2,668
Number reported treated	84,968	44,184	7,647	28,889	2,549	1,699

We find no fault with the framers of the compulsory education law, who very naturally assumed the mental and physical fitness of the child during his school-life, and also presumed that after he had completed his education he was fully capable of retaining this mental and physical fitness. But this assumption of mental fitness had no basis in fact. The teacher, the parent, the school supervisor, know that there are grades of mental fitness varying in degree from brilliancy to idiocy. So, too, with regard to physical fitness. There are all types, from those without any physical defects at one end to cripples at the other.

4. Study of the Individual Child

Education must not hinder but help in the development of the child to properly prepare him for the duties of civil life. Hence, constant supervision, medical and otherwise, is essential. Not alone that, but a careful study of the child as a unit must be instituted in the public schools. His home environment, social status, kind and amount of food and clothing,—in a word, a thorough study of his environmental conditions must be considered by the teacher, principal, supervisor, nurse, and school physician in order that a composite picture of the child may be had during his school attendance. It is during this period that important changes can be instituted in the interest of the child and many preventable defects eliminated by suitable measures. After the child has left school there is no longer that influence that can be exercised to bring about beneficent changes; and if proper adjustments are not then made he goes forth into the world physically handicapped and below par as fitness for the discharge of duties in civil life is concerned. One of the places, then, to enforce the health supervision of children is the public school. Shortcomings in scholastic work are revealed to the teacher by poor discipline, poor recitations, and frequent absence from school. "Laziness," "stupidity," "backwardness," may be the teacher's diagnosis; whereas, in reality, some remediable physical defect or other pathological condition amenable to treatment may be the underlying cause.

5. Training of the Teacher

No teacher should be expected to search for defects or make diagnoses of diseases in school children with such minuteness as a skilled medical examiner or trained nurse. But her eye can be trained with proper guidance to gross observations and focussed on such defects as are apparent on careful inspection to every intelligent observer. Hoag, Terman, Rapeer, Crandall, and others have pointed out that the teacher should be trained in the detection of physical defects and the recognition of symptoms of the common diseases in school children. The teacher is the only one in the school system who comes in sufficiently intimate contact with her pupils day after day, so that with proper training she could very easily and rapidly go through a class and select those that need medical care and attention. She is always willing and ready to assist in matters that pertain to the health and welfare of her pupils, and she forms an important link in the chain of co-operation between the school and the home. Systematic clinical courses in educational hygiene in the normal schools and extension courses for teachers now in the service would be of inestimable value because:

(1) Such courses would provide the teacher with a knowledge of the proper standards in sanitation and hygiene as related to her own immediate environment and place her in a position to assist and advise in matters pertaining to health supervision in the school and in the home.

(2) They would teach her how to conserve her own health and vitality.

(3) They would place her in a position to teach the subjects of practical hygiene and sanitation to her pupils intelligently and effectively.

It is my firm conviction from valuable experience gained as a teacher in the classroom for a number of years that many of the preventable diseases from which teachers suffer are due, only partly to carelessness, and in a great measure to ignorance of the laws of health; that the health of pupils is needlessly endangered because of this gross ignorance on the part of teachers in the rudiments of hygiene and sanitation. I have on many occasions walked into classrooms during the winter months and found the air so vitiated as to be almost offensive to the sense of smell. The teacher and pupils were absolutely unconscious of this impurity. In other instances, in addition to foul air in the classroom and a room temperature of 78° F to 80° F the pupils were found with coats and sweaters on busily engaged in scholastic work. On the other hand many of us are familiar with the "fresh air fiend" who has windows open wide irrespective of meteorological conditions. In the latter case children nearest the windows are recklessly exposed. I have seen many children with attacks of coryza, pharyngitis and tonsilitis that were directly traceable to such exposure. In all of the above instances, moreover, the heating apparatus of the schools were in excellent condition at the time these observations were made. The necessity of training teachers in school hygiene is apparent.

6. Physical Training

At the last session of the New York State Legislature a law was passed making the teaching of physical training in the public schools compulsory for children above eight years of age. It is indeed gratifying to see the Empire State take the lead and set the example to the rest of the country. This system of compulsory physical training is not new in other countries. Scotland and Switzerland have had it for a number of years. The Royal Commission on Physical Training of Scotland undertook some years ago a survey of the schools of Edinburgh and Aberdeen, and they considered among other things the conditions that favored as well as those that hindered physical training in the public schools. As a result of that survey they discovered that the important prerequisite to the successful extension of physical training was to take into consideration the physical defects and common diseases that prevail during school life. They believed that medical inspection aided by the teacher for this training in physical culture was of primary importance. Quite recently a commission was appointed in New York State to prepare a program in physical training in accordance with the above mentioned law. If the proposed work is to be of any value it will be important for this commission to devise a program that will be compatible with the physical conditions of school children. This will mean a thorough and painstaking physical examination of all school children. It means also that the child found with serious physical defects will not be relegated to the heap of useless material as far as physical training is concerned. It means that a flexible program will be devised for such children with special regard to their physical capabilities.

7. Parental Objection

It has been stated that parental objection might hinder good work in health supervision from being carried to a successful issue. But there is no real ground for such fear. With tact, parental objection can be easily overcome. No one is more willing to help the school authorities than the parent when it is pointed out to him that the object is improvement in the physical well-being of his child. Parental objections are founded, perhaps, on the rights of parents, on the duty of the family physician, on the ground that the parents are not neglecting their children, etc. But it must be remembered that the State has a right to demand that children be under state health supervision as well as state educational supervision. Says Dr. Mackenzie:[7] "It is not so much the gross as the hidden danger that justifies examination. The dangerously enfeebled organ that no doctor is ever asked to treat, the slightly enlarged gland that is preparing the way for tubercle, the slightly consolidated lung that in a few months will pass into acute phthisis, the slight recurrent cough that points to feebleness of mucous membranes, the slight 'pigeon' chest that points to respiratory insufficiency, the slight deafness that tells of chronically inflamed tonsils, the slightly open mouth that tells of obstructed nasal passages, the turn of the head that follows on perforated ear-drum or astigmatic eye, the resting of one foot on another that presages hip-joint disease, the clubbed fingers, the cold hands, the blue cheeks that all hint of bad circulation—these and the infinite variations of these and others do not normally attract the attention even of careful parents, and they are seldom if ever made the occasion for calling in a doctor." All this may seem insignificant to the lay mind, but to the trained medical examiner it may mean the beginning of very serious and possibly preventable disease. John's way of turning his head when he reads or writes may be regarded by the parent merely as a peculiar habit which he has acquired. "He never was strong," and "he always looks pale," are familiar remarks portraying conditions attributed by parents to a Divine Providence that cannot be overcome. Health supervision of school children does not relieve parents of any responsibility. It stimulates them, on the contrary, to take a keener interest in their children to the extent of bringing in more frequently the family physician. Many of the diseases resulting in physical disability of those adults, who, in later life become the burden of charity have their origin in part, between the beginning and the end of school life. Nearly all of these are preventable during school age but are frequently beyond repair after growth is completed.

8. EXAMINATION OF CHILDREN BEFORE SCHOOL AGE

Medical school inspection, school clinics, open-air classes, classes for the anemic and tubercular, the blind, the crippled, the feeble-minded—all these are clear indications of marked progress in health conservation. But all our efforts fall short of the mark because the results of medical school inspection are far from what they should be. Physical defects are still abundant, nutrition is still below par in the great majority of children, and fundamental principles of school hygiene are still disregarded with impunity. It cannot be denied that examinations of school children at entrance still reveal an amazing number of physical defects. Forsyth[8] of London has shown the importance of medical inspection of infants and children under school age. "A significant fact," he states, "bearing on the health of school children, though hitherto hardly appreciated is now beginning to claim attention. I refer to the widespread deterioration that overtakes children during the first four or five years of life. This fact is well established by the medical inspection of elementary school children, the majority of whom prove to be physically unsound, most of their defects, moreover, being preventable. In a word a gap, at present unbridged, stretches from the first year, when the activities of the infant consultation[9] come to an end, to the fifth, when the school medical inspection begins." Baker[10] of New York believes that medical inspection of children during the pre-school age period is of vital importance. It is also my firm conviction that the detection of physical defects and their treatment during that period is at least as important as during school life, because permanent damage can then be avoided, treatment is simpler, and more responsive than if left until the time of school admittance. Of 1072 examinations of children of pre-school age extending over a period of several months, Dr. Baker reports as follows:

Defects of vision, 36 or 3.3%.
Defects of hearing, 18 or 1.7%.
Defective nasal breathing, 272 or 25.37%.
Hypertrophied tonsils, 260 or 24.25%.
Defects of nutrition, 227 or 21.18%.
Cardiac disease, 13 or 1.2%.
Pulmonary disease, 33 or 3.1%.
Orthopedic defects, 91 or 8.5%.
Nervous disorders, 22 or 2.1%.
Defective teeth, 326 or 30.29%.

Forsyth's report for the City of Westminster details the results of observation on 664 children during 1912 and 1913, as follows:

TABLE V[9]

Showing Defects in 664 Children in City of Westminster, Eng., with Percentages for Each Year up to 5 Years of Age

Age	Number Examined	Decayed Teeth	Enlarged Tonsils	Adenoids	Rickets
0–1	294	......	......	3.0%	19.0%
1–2	119	1.7%	6.7%	8.4%	24.4%
2–3	120	16.7%	21.7%	20.0%	8.3%
3–4	79	45.6%	27.8%	39.2%	5.0%
4–5	52	55.8%	30.8%	48.0%	1.9%

He shows conclusively that there is a rapid rise in the percentage of defects with each year of life; that while the greatest number are found to be in good physical condition during the first year of life, very few reach the end of the fifth year without any physical defects. While his observations are limited as to the number of children examined and the number of defects recorded, his studies are intensive and point the way for futher observations along parallel lines. The interesting feature of his observations is the progressive records of certain common physical defects for each period of child life.

IX. STATISTICAL CONSIDERATIONS

In round numbers, we have about 20,000,000 school children in the United States, seventy-five percent of whom are suffering from partially or completely remediable defects, and according to Allport[11] we find these defects distributed as follows:

TABLE VI

Showing the Great Numbers of Physical Defects Found in School Children of U. S.

Number of school children in U. S.	20,000,000
Defects present:	
Organic heart disease	500,000
Spinal curvature	1,000,000
Tuberculosis	1,000,000
Defective hearing	1,000,000
Defective vision	5,000,000
Malnutrition	5,000,000
Operable tonsils and adenoids	6,000,000
Defective teeth	10,000,000

It is claimed that by proper methods of control and suppression connected with medical school inspection seventy-five per cent of the deaths in the United States, due to contagious and epidemic diseases, might be eliminated. It is interesting to note from the above figures how much there is still left to be accomplished in the matter of correction of physical defects and the elimination of preventable disease in the public school children of this country. Even with all the work that has thus far been done in school health conservation it must be apparent that we have only begun to scratch the surface.

SUMMARY

1. Medical school inspection should be nation-wide. It should be mandatory in every state of the Union, and free from the influences of politics.
2. Education of the parent is imperative and must be made so impressive that medical school inspection will be looked upon with the same importance as compulsory education. Disease and defects incident to school life still abound to a shocking degree in our public schools.
3. The thorough study of the physical nature and environment of the school child from every possible angle is of great importance.
4. The training of the teacher in the important symptoms of common school diseases and the detection of gross physical defects in school children is equally important.
5. Compulsory physical training should be adjusted with a view toward the correction and elimination of physical defects.
6. Finally, medical inspection of children before school age should be widely extended and suitable records kept for use at the time of admittance.

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[1] U. S. Bur. of Education, Report of the Commissioner of Education 1915, I. 418.

[2] Ayres, Leonard P. and May, Health Work in the Public Schools, 1915, The Survey Committee of the Cleveland Foundation, Cleveland, Ohio, p. 12.

[3] Spencer, Herbert, Social Statics and Man versus State, New York, 1893, D. Appleton & Co., p. 313.

[4] Ruhrah, John, Osler's Modern Medicine, New York and Philadelphia, 1907, Lea Brothers & Co., II. 374.

[5] McCollom, John H., Osler's Modern Medicine, New York and Philadelphia, 1907, Lea Brothers & Co., II. 336–7.

[6] Ibid.

[7] Mackenzie, W. Leslie, and Mathew, Edwin, The Medical Inspection of School Children, Edinburgh and Glasgow, 1904, Wm. Hodge & Co., p. 13.

[8] Forsyth, David, The Health of Children under School Age, Pediatrics, 1915, XXVII. 121.

[9] "Consultation" is the name given to the centers where parents bring their children.

[10] Baker, S. Josephine, Department of Health of the City of New York, The Bureau of Child Hygiene, Monograph Series, Jan., 1915, No. 4.

[11] Allport, Frank, School Hygiene or The Health and Progress of the School Child, Pediatrics, 1913, XXV. 335.

COMMUNICATIONS AND DISCUSSIONS

AN EXPERIMENT WITH DRILL IN ALGEBRA

Anna Taggart
Murphysboro Township High School, Ill.

A PRACTICE test in algebra following a plan suggested by a study of the Courtis Standard Practice Tests in Arithmetic has been devised, and is being applied in the Murphysboro Township High School.

The purpose of this test is twofold: to develope speed and accuracy, and serve as a review drill in the essentials of the subject.

Test papers were made, each designed to test as nearly as possible one process.

Below is reproduced a portion of a paper used which may be taken as fairly typical of the series. The paper contained eighteen problems similar to the four here given and of about equal difficulty.

TEST NO. 4

Subtraction

(Write results only)

1. $$\begin{array}{rcrcr} 4a & + & 3b & + & 2c \\ a & + & b & + & c \end{array}$$

2. $$\begin{array}{rcrcr} 6a & - & 3b & - & 4c \\ 5a & - & b & + & c \end{array}$$

3. $$\begin{array}{rcrcr} a & - & b & - & 1 \\ -a & + & b & + & 2 \end{array}$$

4. $$\begin{array}{rcrrr} 10a^3 & - & 3a^2 & 6a & 7 \\ -a^3 & & a^2 & & -4 \end{array}$$

The five minutes of the recitation period is given to the test, the work being written, and the test managed by military-like orders, as explained in the Courtis Manual. After writing materials and test papers are distributed the "make ready" and start signals are given, and in exactly five minutes at a signal the work ends.

Next day the same test is given, each pupil repeating the work until a certain standard of speed and accuracy is reached. When a pupil reaches this standard he is promoted to the second test, the other pupils continuing to repeat test one for some five or six successive times. Then all are advanced to test two.

In the mean time the teacher can hold a consultation with the weakest pupils and assist them to bring up their records.

It seems advisable to have a minimum standard so that the weaker pupils may experience success in return for effort. The mere fact of promotion acts as a strong incentive.

It has seemed practical as the experiment proceeded to construct the test papers in such a way that at the end of every ten or twelve days the whole class can start together again on the same test.

All scoring of papers has been done by the teacher so that the time taken from the regular recitation period might be kept at a minimum.

The following table gives the record for ten days, and shows a device used for recording promotions.

	T*	C*	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	T	T	C
A	7	1	12	3	9	3	10	6	10	4	10	6	8	8	+		15	10	15	11	16	15				
B	10	8	12	10	14	12	+		15	13	16	14	18	18	+		11	10	11	10	11	11	+		3	3
C	10	6	12	11	13	11	13	9	13	12	+		20	..	19	16	20	18	+		9	7	9	8		

* T = tried; C = correct.

The record shows that A tried seven problems the first day, one being correct, and continued on the same test for seven days; was then promoted to the next test working on this three days. B was promoted three times during these ten days so his record stands two squares beyond C's who was promoted twice in the ten days.

Some measure of the efficiency of this test in the Murphysboro Township High School was obtained by exempting section three of algebra I, and trying the experiment in sections one and two.

Below is given the quarterly average of each class for the first and second quarters of the year. The experiment was tried throughout the second quarter.

	Section I	Section II	Section III
1st Quarter.......	80%	85%	87%
2d Quarter.......	86%	85%	82%
Gain.............	6%	....	—5%
	Taking review test	Taking review test	No review test

The result seems to justify the conclusion that the Review Tests have increased the efficiency of the pupils in the regular work.

Further experiment can no doubt produce tests after this plan more intelligently graded and more definitely organized, so that a greater efficiency may be expected.

BOOK REVIEWS

Louis W. Rapeer. *Educational Hygiene.* New York: Charles Scribner's Sons, 1915. (Pp. XIX, 650.)

This book represents an unusually comprehensive treatment of the field which the author chooses to call Educational Hygiene. As he explains in the beginning, and later proves in his treatment, Educational Hugiene includes much more than the old term, School Hygiene connoted. It includes "all agencies for the promotion of health measures through education." Besides the strictly school agencies such factors as anti-tuberculosis societies, public health lectures, and newspapers and magazines are reviewed.

The book is made up of four parts, the third part comprising the bulk of the material. Part I is entitled Health Sociology, and deals with the public health movement in its relation to heredity, to the home environment, and to the public school; co-operation of the school with other public health agencies; and the social center movement. Part II is concerned with the beginnings of public health movements, plans for state co-operation, and the methods of public health administration in cities and in rural districts, respectively. Part IV contains a brief discussion of the Hygiene of the College. Part III is called the Divisions and Practice of Educational Hygiene. Educational Hygiene is here treated under the five following heads: Medical Supervision, Physical Education, School Sanitation, the Teaching of Hygiene, and the Hygiene of Methods of Teaching and Management.

The editor recognizes the fact that no one man is qualified to treat adequately all of these phases of his large subject. He has consequently secured the co-operation of a number of experts in the various divisions of the large field.

School feeding, school nurses, playgrounds, heating and lighting, physical directors—one can hardly think of anything connected with mental or physical well-being which is in the power of the school to improve that is not treated in this volume, and treated well. The history of the movement toward better health in all of the various ways suggested above is sketched, the present stage of the work is pictured, and the lines along which we should work for further improvement of our health conditions is pointed out.

It is clearly shown that we in America, as a people, provide very poorly for public health. The improvement must come through the public schools, say the authors, and they see in the examples of cities which have instituted a resolute campaign against disease and its attendant evils, reason for hope and confident belief that we shall some time solve our health problem through the public schools.

The usefulness of the book for all grades of teachers and people generally is greatly increased by the detailed plans which are suggested for the organization of school games, the keeping of cumulative health score cards, etc. The authors have sensed the difficulty that most of us have in interpreting and appropriating theories, and they have prescribed very definitely regarding such things as can be, and have been, fairly well standardized. They have described in sufficient detail the methods used by the more progressive cities, and these should prove useful for communities which are struggling in the first steps toward a reasonable condition of health.

The book is valuable in its very comprehensiveness. It can be profitably used in connection with courses in Educational Hygien.

JOSEPH HENRY JOHNSTON.

University of North Carolina.

LOUISE AYRES GARNETT. *Master Will of Stratford.* New York: The Macmillan Company, 1916. (Pp. 124. 50 cents.)

Among the permanent assets resulting from the celebration of the Tercentenary of Shakespeare's death as promoted this year by the Drama League of America must be included the charming play for children entitled "Master Will of Stratford," by Louise Ayres Garnett.

Mrs. Garnett calls it a "Midwinter Night's Dream," thus suggesting a Shakespearean flavor and that it will be reminiscent of his Midsummer Night's affair. This is indeed carried out, for after a prolog introducing Will Shakespeare as a lad of 12, the author has him fall asleep to dream of fairies and to reconstruct in dreamland the events of the preceding day. It thus suggests also the influence of "Peter Pan" and "The Poor Little Rich Girl."

The prolog introduces Will's mother in talk with Betsy his playmate who is caring for her baby brother while all the rest have gone to see Queen Elizabeth on her visit to Stratford. Sir Thomas Lucy comes in to accuse Will of poaching (even as he is reported to have done in real life), and later a dumb pedlar enters. In his dream, each of these (save his mother) is introduced, transfigured by his fancy, even as he said he could, and later did so, when he wrote his plays.

Sir Thomas actually does appear in "Merry Wives of Windsor" caricatured as Justice Shallow, with the same luces punned upon as being louses on the family crest. So too the pedlar Filch is very reminiscent of Autolycus in "A Winter's Tale," while the Constable is a veritable Dogberry.

The three acts of the dream take place in the Forest of Arden where Puck and his companions roam, Titania and her train wander, and Oberon and his court attend. All of these are drawn confessedly from the "Midsummer Night's Dream," and even the Indian babe, the cause of the fairies' quarrel, is brought over by Mrs. Garnett. The germ of that play is here shown in embryo.

The loss of the babe through the machinations of the witch, the tricks and quips of Filch the pedlar, the entrance of Queen Elizabeth and her court, the placing of the ass's head on Sir Thomas Lucy (as if he were Bottom), the introduction of Robin Hood with Friar Tuck and all his merry band, until the final placing of the babe in the hands of Titania, these incidents interwoven from the main interest of the plot. The songs and dances assist the action, making a play which will interest children whether as actors or as audience.

The epilog of Will's awaking on New Year's morning after his vision by the fireside and finding 'twas all a dream, has one foregleam in it which will awaken interest in the child; his search for his fate on his own hearthstone as told him by Titania, and the finding there of the quill feather with which he was to write his plays.

Not alone is the plot well constructed and full of action, and the characters cleverly introduced as foreshadowings of later actors, but Mrs. Garnett has been unusually successful in writing a poetic fanciful dialog quite in keeping with the dream element in Acts 1 to 3. In the prolog and epilog she has also introduced a careful reproduction of the Warwickshire dialect, giving an archaic flavor to the scenes.

The songs interspersed are by Mrs. Garnett also and read rhythmically and should sing well. She has composed the music as well. This must be secured separately.

The setting of the scenes in Shakespeare's home and in the Forest of Arden gives an atmosphere to the piece which aids materially in obtaining the right effect.

As a whole the play is a good piece of work. The plot is worked up to a real climax in Act 3. The spectacle or pageant element is excellently done, and we can already see the glee of the watching children as the witch appears each time in a burst of red flame.

In the prolog and epilog, when his poaching is explained as sympathy for a wounded bird, when he works out the idea of the seven ages with his mother, when he is so precocious at 12 that she cannot follow his thought though she tries to—the introduction of these ideas forms the weakest spot in the play. It feels like false characterization of boy nature, it deifies the man Shakespeare, it is strained, forced, unnatural.

Yet the children will not notice or mind these things. They will rather rejoice to meet old friends in his creatures of fancy when they make their acquaintance again in the real plays of Will Shakespeare.

F. K. W. DRURY.

The University of Illinois.

BERNARD M. SHERIDAN. *Speaking and Writing English.* Lawrence, Mass.: Board of Education, 1915. (Pp. 160.)

"Speaking and Writing English" is the title of an especially attractive outline of a course of study in English for the entire elementary school, written by Mr. Bernard M. Sheridan, superintendent of schools, Lawrence, Massachusetts. This course, in a remarkably skillful fashion, outlines in specific and detailed form, grade by grade, how the aim suggested in the title may be attained. It is in agreement with the more recent attitude schools are taking toward the sane teaching of English in the grades. Mr. Sheridan is concerned more with habits of expression than with rules and diagrams. His point of view is this: applied grammar is of far greater practical importance than technical grammar, that the real test of grammatical knowledge is to be found in the spoken and written expression of people.

Unlike many similar courses, that are general in style, full of wise expression of principles but quite devoid of definite directions for going about the work of instruction, this course is specific, containing much detailed and stimulating class room help and illustrative material. There is a slight tendency here and there to be over-minute in the directions, to say the thing that is self-evident, or to point to an error that an ordinary teacher is not likely to commit. This gives to the course a note of egotism. Nevertheless, no one can read far in this piece of work without being conscious that the author knows his business, that he has observed widely, and that he has drawn conclusions from his experience that are sound, progressive, and stimulating. Very little is said about formal grammar, but much is made of imitation, practice, and habit, or applied grammar.

What the author says about teaching the "sentence idea" is especially timely and pointed. What he sets down about theme correction, the teaching of spelling, oral composition, and the standards of attainment at the end of each semester's work, is all excellent and of an exceptionally practical nature. So too are the carefully selected lists of theme titles, of words commonly misspelled, of words and expressions commonly misused, and of words presenting difficulties in enunciation and pronunciation. These matters are put into the course in small portions where they will be most likely to prove useful. In the appendix there are thirteen ingenious and serviceable language games dealing with glaring errors of speech; and standard letter forms looking towards a uniform practice in this particular.

All in all, "Speaking and Writing English" is such a course of study as should prove of great practical help to teachers of the elementary school in the instruction of the most difficult as well as most important subject in the curriculum.

FREDERIC R. WILLARD.

Central High School, Springfield, Mass.

FLOYD S. MUCKEY. *The Natural Method of Voice Production.* New York: Charles Scribner's Sons. (Pp. xiv, 149. $1.00).

This little book will be of real help to all users of the voice, alike in singing, public speaking, and conversation. Not professing to be an exhaustive treatise, and not touching the subject of expression, it gives a clear exposition of the structure of the vocal apparatus, and the principles of right production of tone, in definite and non-figurative language. In developing a good speaking voice the quality of tone—so generally neglected by Americans—is really the first thing to be secured; get the tone right and good enunication, as well as correct pronunciation, can be acquired much more easily and surely. In producing good tone the use of the resonating cavities of the mouth and nose is of great importance. The misuse of these cavities is largely responsible for the peculiar harshness and ineffectiveness of so many American voices. Dr. Muckey has given especial attention to this matter of vocal resonance. In conjunction with the late Professor William Hallock, in the Physics Department of Columbia University, he devised apparatus for recording human tones, analyzing their harmonics more accurately than had elsewhere been done. On the basis of some thousands of photographic records of voices, ranging from those of the DeRezskes, Nordica, etc., to those of the veriest tyros, he has worked out the theory of voice production, with suggestion of some simple exercises which deserve the careful attention of all students. The right use of the resonance apparatus is not difficult to learn, and it is the conclusion of a number of careful observers, both voice students and physicians, that it is possible for any person, who is not deformed, to develop a pleasing and effective speaking voice with no great effort and in a short time with comparatively little instruction.

JOHN M. CLAPP.

Lake Forest College.

F. M. HOPKINS. *Reference Guides That Should be Known and How to Use Them.* Detroit, Michigan: The Willard Company, 1916. (187 pp. $1.50).

This book is one of the most detailed of the text-books on the use of reference books. The material is arranged in groups, to be given in twenty-two class periods extending over the four years high school course. The most important feature is the reproduction of sample pages from the most important books, presenting to all members of a class the same material for explanation and discussion. Another strong point is the large number of problems suggestive for one unused to teaching the subject. The references to the answers, however, are too plainly indicated to be useful in developing the self reliance of the pupils. The selection of books is, in general, good.

The sections on the parts of a book, on dictionaries and on public documents are specially well worked out. The sections on library classification and the catalog are the weakest. In Table 2 of the former the attempt is made to show the significance of certain numbers in the Dewey Classification, but a confusion of the form divisions and literature sections of the system has resulted in a table and explanation which seem to indicate that 813 is the number for American *dictionaries* instead of American *fiction,* or that 201 is the number for Religious *poetry* instead of *theory* of Religion. The assumption that guide cards are sufficient explanation of subdivisions of subjects in a large card catalog is surprising to anyone who has seen college students puzzled by them. The book very much needs revision, not only for the numerous misprints but for more serious mistakes, such as including in questions on sample pages words not in the sample. The author also lists Public Affairs Information Service (a book, by the way, too advanced for high schools) at "the small price of $1.00 per year," but the publisher gives only the price of $100.00 for complete service or $25.00 for partial service. The importance of publication dates of reference books makes their omission a restriction of the usefulness of the book. A better index is desirable. The too few biographical dictionaries included are buried in Group 3, Encyclopedias of special subjects, and Group 6, Yearbooks, with no reference under biography in the Index. Literature is another important subject much slighted.

The nucleus of an excellent text book is here and it is hoped that a thorough revision of it may be shortly provided. Meanwhile, the publication of the book also in parts makes it possible to use the better sections and to buy them in quantities as needed for class use without being obliged to purchase the less satisfactory.

MARGARET HUTCHINS.

University of Illinois Library.

Educational Administration and Supervision

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EDITORIALS

Our Special Issues

WE feel very grateful for the avalanche of correspondence which has piled up around us regarding our special issues "The Gary Number" for March, the "Junior High School Number" for September, the "Philosophical Number" for November, and the "Party Platform" discussions. (In this last venture we are finding it much more difficult to apply educational philosophy to definite school issues and controversies than to discuss purely abstract philosophical questions.) While all the letters concerning our special numbers are by no means commendatory, still all do show that we have apparently tackled, even if irreverently at times, vital school issues. We hope we have done so in the right spirit, in the sporting spirit. Openmindness is desirable even when it is clear that our conviction is in favor of one side. From the signs of the times we can be certain that we are going to fight over educational questions much more vigorously than ever in our history. Let us hope that we can anticipate, but entirely on the intellectual and moral plane, the contests now going on in Europe. There is to be no serene sky and smooth sea for American educators in the next decades. We need not try to escape. The clashes in educational philosophy and in conviction as to administrative adjustments to the need of democracy must have searchlights fearlessly thrown upon them. Even now we have educational leaders advising quite opposite remedies for our educational ills as a nation.

From our point of view some of these recommendations are as anti-democratic as they can be and their advocates should be fought to a finish.

We shall publish from time to time certain of these "reactions" of our readers, but wish herewith to acknowledge all of them and to express our appreciation of the "smack" of sincerity all but a few captious ones clearly possess.

THE GARY IDEA AND THE JUNIOR HIGH SCHOOL IDEA

Some enthusiasistic Garyites feel offended at our championing any such (from their point of view) half-way solution as the junior high school plan. Thinking like ("undeterred") philosophers of educational administrative theory they look beyond any immediately adoptable and measurably practical administrative scheme such as the junior high school is, which offers temporary but real relief by easy transition from the old 8–4 to other types of school adjustment to modern demands (See Bourne's The Gary Schools). The extreme Gary champions wish to make the big jump all at once. Knowing the spirit of the schools and the possibilities of shifting school machinery we know that this revolutionary step, even if it is in all respects desirable, won't be taken generally at this stage of our national educational development. Opposed to the Absolutists however we commend the *Spirit of Gary* and see in the junior high school movement with its many variations as many illustrations of the winning out of progressive educational policies.

THE JUNIOR HIGH SCHOOL AND THE LITERAL-MINDED

On the other wing are objectors who think always of the six-three-three plan as the only junior high school pattern, and on this arbitrary assumption expatiate upon the "dangers" of the junior high school. Some of these are honest and some appear to us to be merely contentions. An example of the honest objector, though we do not class him as "literal-minded" so much as uninformed as to the great variety of junior high schools, is that of Mr. Cheesman A. Herrick who writes for the Educational Review for October, 1916 (see especially pp. 254–256). We have always taken the more liberal view of the reorganization movements as those with particular reference to "reorganization and differentiation of work of the 7th, 8th, and 9th grades," and indirectly making necessary similar reorganizations of work above and below these grades. As Superintendent E. G. Spaulding of

Minneapolis (see A Million A Year—A five-year building program, Minneapolis, 1916) says: "Provision for the reorganized and differentiated work of these three grades may be made in the three following ways:

"1. Separate schools, called junior high schools may be provided.

"2. A junior high school department may be established in an elementary school, which enrolls some or all of the lower grades.

"3. A junior and senior high school may be organized, either in departments or as a single unit, in a single building." The general junior high school plan is not limited to any single type of organization, neither is it limited to any single feature or special combination of features. It is experimental. Supt. Spaulding's plans, from the purely administrative point of view, indicate variations of junior high schools. From the pedagogical or strictly educational point of view there are likewise many variations.

THE JUNIOR HIGH SCHOOL MOVEMENT PASSES INTO ITS SECOND STAGE

Our interesting correspondence shows clearly that we are passing beyond the stage of blind imitation or blind projecting in this matter. Individual junior high schools are consciously experimenting in different ways with junior high school possibilities. Letters from a dozen such schools in Kansas alone suggest the individuality of particular junior schools. These reports from the field, with similar ones from various other states, indicate that one junior high school for example is making a specialty of differentiated curriculums and reorganization of subject matter from psychological considerations —from the point of view that is, of having class sections divided with reference to accelerant, normal and slow-moving pupils; another, from the point of view of vocational necessity, is organizing short courses, or curriculums for those who (mostly the children of immigrant workers who have been prevailed upon to patronize the ninth grade in its new setting) must (or certainly will) stop at the completion of this grade; another, tackling directly the problem of individual differences, is developing the junior high school "teacher-adviser," raising the salary scale and professional standard of the junior high school teacher, and working out a very complete system of cards for recording (and administering!) significant individual traits; still another is working first upon the pressing local social issue of making the junior high school a special kind of social centre. "Experimentalism" in this field is coming into its own!

POOR JUNIOR HIGH SCHOOL PRINCIPAL!

At a meeting of the N. E. A. this summer in New York the writer met one of the well-known junior high school experimenters. He was deeply discouraged. He was striking snags in the administration of this new scheme. Things were far from going smoothly. He had, it is true, his new junior high school building, he had his junior high school teachers on the same salary basis as his senior high school teachers, he had elaborate and encouraging records of improvement in promotion, in persistence in school and in general scholarship records. He had a wide correspondence and professional acquaintanceship largely by virtue of this venture. He had his board and most of his patrons and teachers with him. He had introduced successfully an unusual number of junior high school features. But he was discouraged.

He had attempted to take really the most vital step, the crucial one in his development of junior high school possibilities. He had tackled in a fundamental way the curriculum organization itself, the school subjects themselves and the particular courses. He found many of his teachers, especially the older ones in the upper grades for years, wedded to more or less stereotyped methods, to particular types of text-books, in short to tradition when it came to such fundamental matters as subject matter and methods of teaching. He, however, had a good head and leader of his mathematics department who had effected vital reorganization and significant differentiation here. He himself as administrator, holding a higher degree in history and political science, had enthusiastically coöperated in reorganizing this work in both the junior and the senior high school cycles, and had even helped work out and put in operation a syllabus of a course in "community civics" for his junior high school.

The trouble with him was that he couldn't likewise see how to tackle the junior high school science problem, the reorganization of the English work (we are soon to publish for him and others a striking article on this very special subject), the foreign languages changes and the various much heralded "prevocational" subjects.—He had passed into the second stage, a sort of inevitable teachers' Gethsemane. It was good to note that it never seemed to have occurred to him to join the Absolutists' ranks with "The thing simply can't be done. What's the use!"

C. H. J.

The School Library

THE following interesting library letter has been sent to 115 cities and towns in Kansas by Librarian W. H. Kerr, one of the most vigorous and efficient school library workers in the country:

DEAR MR. SUPERINTENDENT:

Is your high school library all-round effective? Has it enough cutting edges, and are all the edges cutting?

Perhaps this library can help you. We think we ought to help if we can, and we have been planning how we may help most effectively. Here is the result:

Between now and the first of February, we are prepared to give nine weeks of service—a week each in nine cities of Kansas—by members of the staff of this library, in helping to systematize and sharpen up high school libraries. The expense to you for a week of this service would be the necessary travel and local entertainment, plus the supplies used in the work.

In a week's time, in the average school library, we would hope to accomplish something like this: Sort out books desirable to keep, classify according to the Dewey decimal system, supervise labeling and installation of card charging system, and possibly make accession and shelf-list records on specially-devised cards in such form that we could later prepare and send to you complete card catalog (a plan for caring for the expense of such cataloging still to be worked out). One or more of your people would necessarily be given a week's training and observation in library methods. Possibly a meeting with your teachers for discussion of library use could be arranged.

Would this service be useful to you, and would your board be willing to pay the travel and local expense?

Please also let us know your attitude on another point: Manifestly our nine weeks' service cannot take care of this problem permanently. A coöperative plan for this skilled work ought to be arranged. If we cannot reach you this year on the above free-service plan, would you and your board be willing to pay, say $35, for one week's service (travel and local entertainment included within the $35) of a skilled school library worker whom we would employ for this special work?

Better write at once. Talk it over with us at first opportunity.

Very sincerely yours,

W. H. KERR,
Librarian.

THE MOMENTUM OF THE MOVEMENT FOR HIGH SCHOOL LIBRARIES

Often some educational movement of great significance is upon us before we are adequately aware of it. It is built upon some sense of educational values gradually becoming articulate and self-conscious. If one were asked to cite one source where we may have something reflected of the spirit of the movement for better school libraries we should at once think of the Library Journal ("School Number") for September, 1916 (R. R. Bowker Company, New York). It would pay any school system in the country at present without it to order this particular issue right away and see that all the history and all the English teachers read it and report adequately upon its contents at an early teachers' or departmental meeting. We have attempted ourselves to discuss the meaning and the ideal of modern school library work in a modern school (see School and Society, March 18, 1916, and September 9, 1916, Garrison, N. Y.).

POSSIBLE PRACTICAL STEPS

Effective and smooth library organization and administration for a modern high school is a solid and a rare achievement. It is, however, an indispensable function of a thoroughly socialized school. Some things looking toward this happy eventuation of school administration might be begun by any one. All can begin systematically to provide the material equipment, room, furnishings, shelf accommodations, knowledge of cataloguing and filing practices, magazine and newspaper and bulletin board accessories, etc. If there can be no trained and special professional librarian one teacher of the staff can be sent to a library school for summer work and can be persuaded to take correspondence work. She should also by contract be relieved of some teaching duties. All schools over five hundred should work toward a full time librarian. All school administrators also should see that an adequate sum is definitely set aside for library purposes. To this end as well as for many other reasons all should work by definite budget system. We have just visited a high school whose budget for library this year was $1000. Because, however, of indefiniteness of apportionment $700 of this went to the purchase of stacks and a sum much less than the ordinary one to the purchase of library material proper and library service. The other item should have gone to the building and equipment fund possibly. Other definite steps might well be arrangements for special instruction in the use of books and library catalogues, maybe later definite courses in library methods for those with vocational purposes, and for all the working out of a clear and systematic plan of affiliation and proper coöperation with the public library officials.

C. H. J.

Our Party Platforms—(*Continued*)

SOCIAL RECITATION IN HIGH SCHOOL

Absolutists' Plank

WE view with concern and look askance at the numerous efforts to organize the traditional class-meeting into what is known as the "social recitation." The direct smooth tenor of the logical development of topics—even when the student does not know what it all is about—is a wholesome demonstration of education and always should characterize school instruction. In the new and over-rated social recitation this smoothness in technique of the logical teacher is endangered, students lose respect for the teacher's ability, and become too much interested in one point to go ahead according to the prearranged scheme. Often the possibility of "covering the course" is lessened and in addition it is more difficult to administer final written examinations, to give definite marks, and to keep "order" by maintaining "school silence." We deplore the tendency also because we have already classified our lessons as "drill lessons," "appreciation" ones, "thought" ones [sic], "question and answer" ones, "developmental" ones, etc., and this new type overlaps, and simply does not classify.

Experimentalists' Plank

We heartily endorse the numerous and increasing instances of varying the traditional type of school recitation, particularly that of so organizing the class membership that all feel a larger measure of corporate responsibility for the meeting. We believe that this tends to naturalize and to intensify the educative process, that more pupils participate and that the character of their participation is better, in short, that their zest for contributing from all sources is enhanced. We believe that here we have a better opportunity for teachers' ingenuity, and that we tap new sources of educational material—and best of all, in the upper grades and the high school, that we thus afford better school adaptations to the psychological and social natures and other interests of adolescents in particular.

THE DOCTRINE OF INTEREST AND EFFORT

Absolutists

Work, efficiency, effort is the salvation of our schools as of our nation. We believe that the *laissez faire* individualism of our American schools has gone too far, that our students regularly shirk work and that teachers have got in the habit of accepting this slip-shod performance. We believe that only conscious, habitual submission to and conscious continuous practice in tasks themselves requiring unpleasant effort will produce desirable mental results. We frankly proclaim the "doctrine of pain," and almost, if not quite, believe that a thing is educational because it is unpleasant or painful, and that this is the prospect for which we should harden children while we have them in school.

Experimentalists

We believe that there has been a false antagonism set up between what interests and what requires effort, and a false description given of what the feeling of effort is. Our opponents have confused the immediately diverting and purely sensuously pleasant with the far different thing, the *deeply and personally satisfying*—an ideal as old as Aristotle. Consequently we believe in the adoption of the doctrine of self-activity, self-motivation—all with the teachers' coöperating, understanding direction. This is a program and platform of Effort-Work (or Action) surely, but not one of Buddhistic acquiescence in mere work for work's sake. Our work-action doctrine is both more productive of efforts which continue and accomplish and of interests which develop, endure and stimulate. We renounce the literal and cynical "toil and taskmaster" conception of the nature of the educative process, although recognizing that under the necessarily partly artificial conditions of much school work at present our goal for working conditions and for motives is far from being achieved.

C. H. J.

BOOK NOTES

Fred C. Ayer and Herman N. Morse. *A Rural Survey of Lane County, Oregon.* 1916. The University of Oregon Bulletin. New Series, Vol. XIII, No. 14.

The numerous recent educational surveys have taken, as a rule, cities or states as their fields. In the present study the county has been selected for economic, social, religious, and educational investigation. The survey is divided into four parts: A General View of the Field, Population and Social Life, Religious Life and Institutions, and Education. The county chosen for examination is the seat of the University of Oregon.

The organization of the survey is interesting. It was undertaken by the Inter-denominational Conference of Ministers, in coöperation with the extension division of the University of Oregon, and a considerable part of it is naturally devoted to a report and discussion of the religious interests of the county. Some of the recommendations in regard to both the subordination of church or denominational interests to community interests and in regard to changes in educational administration and instruction are interesting.

Samuel Paul Capen. *Accredited Secondary Schools in the United States.* Bureau of Education Bulletin, No. 20, 1916.

This bulletin is the second revised edition of the original list published by the author at the request of the Commissioner of Education. Its principal difference from, and advantage over, the second revised edition is in including a complete list of the private high schools of good standing throughout the country. The earlier editions of this bulletin have been noted and therefore no detailed notice is necessary now. The continued demand for it is sufficient proof of its value.

J. O. Engleman and Jesse H. Newlon. *The Organization and Program of Studies of the Decatur High School, Decatur, Ill.* Board of Education, 1915. Pp. 91.

This is one of the best high school manuals we have seen at all. The policy with reference not only to instruction but to the whole life of the high school is given in adequate detail and in readable form. The terminology is clear and even technical questions are clearly put up to patrons, teachers, and students. The discussions of the life of the school, the organization of the program of studies into clearly designed curriculums, courses in a subject into sequences, and the "units of instruction" within particular courses as well as the distinctive educational values conceived to be inherent in the subjects are particularly suggestive and indicate a wholesome coöperation and effective team work of the whole administrative and instructional force of the school.

NEWS NOTES

DEPARTMENT OF SURVEYS AND EXHIBITS, RUSSELL SAGE FOUNDATION

SINCE the days of hectic "muck-raking" the social surveyor has pointed the way to a saner and better method of measuring and improving conditions of life in city and country. Just what a social survey is, how it is brought about and what ought to follow—and what does follow—are stated in a newly published pamphlet on the subject. It is entitled "Community Action Through Surveys,"* and was prepared by Shelby M. Harrison of the Department of Surveys and Exhibits, Russell Sage Foundation. The pamphlet presents a list of the specific developments following the publication of the findings and recommendations of surveys made in Pittsburgh, Newburgh, Topeka and Springfield. From Springfield, Illinois, alone comes a list of forty-one items of civic and social advance following the survey although the pamphlet points out that credit for the actual achievements should at least be divided with many local organizations.

The social or community survey is described as an important "means to a better democracy." The survey is shown to serve this end by "informing the community upon community matters, and thereby providing a basis for intelligent public opinion. It is a school whose teaching is not confined to children and youth, but which aims to get its facts and message, expressed in the simple terms of household experience, before the whole people. It utilizes as many channels of education as possible."

The civic accomplishments of a great daily paper in a Middle West city are quoted to illustrate survey possibilities and point to the essential elements of a social survey as summarized in this definition:

"To sum up the survey in a few sentences . . . . it is an implement for more intelligent democracy, its chief features or characteristics being: the careful investigation, analysis, and interpretation of the facts of social problems; the recommendation and outlining of action based on the facts, and the acquainting and educating of the community not only to conditions found but to the corrective and preventive measures to be adopted. The survey lays emphasis, moreover, upon the importance of studying problems in their various community-wide relations and urges coöperative action on a community-wide basis. It deals with the whole district and endeavors to lead individuals to think in terms of the whole. It is the application of scientific method to the study and solution of social problems, which have specific geographical limits and bearings, plus such a spreading of its facts and recommendations as will make them, as far as possible, the common knowledge of the community and a force for intelligent coördinated action."

The author pins his faith upon the "correcting power of facts" and the belief that American experience shows "that communities will act upon facts when they have them."

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, SECTION L.

THE annual meeting of Section L, Education, of the American Association for the Advancement of Science, the tenth anniversary of the founding of the Section, will be held in New York City December 27th, 28th and 29th. A large attendance of school men interested in the scientific study of educational problems is expected. The American Psychological Association and other Societies interested in the measurement of mental development will meet at the same time and a large number of papers will be presented covering various phases of educational and mental measurements. While it is too early to announce the exact titles that will appear on the program, reports are assured from many of the scientific studies being made in arithmetic, reading, spelling, school programs, etc., in various parts of the country. It is hoped that school men interested in measurement will give the Section their support by attendance at the meetings and by membership in the Society.

EDUCATIONAL GUIDANCE IN THE MODERN HIGH SCHOOL

(Proposed program for the high school section of the Illinois State Teachers' Association, Springfield, Ill., December 28, 1916.)

Professor Charles Hughes Johnston, Urbana—The administration of educational guidance.

Prin. I. M. Allen, Springfield—Personal and moral guidance including the organization and direction of school activities.

Prin. H. F. Buck, Chicago—Guidance in so far as it refers to choice of careers.

Prin. R. G. Beals, Taylorville—A plan for instructing high school students as to the nature of the vocations open to them.

Prin. E. V. Tubbs, Centralia—The problem of coöperation of teachers and parents in the matter of educational and vocational guidance, moral and personal.

Prin. T. M. Deam, Decatur—The card catalogue system and other methods of recording individual traits and suggestions as to how to administer these systems of recording.

Prin. W. Wallis, Bloomington—Economic methods of giving advice regarding the election of studies with a suggestion as to when and how this advice is to be given.

Prin. G. J. Koons, Murphysboro--The problem of "Follow-up." An account of the Boston system and an evaluation of the knowledge of the after-vocational careers of high school graduates.

THE TECHNIQUE OF MENTAL TESTING

Third year. Fifteenth reading of ten papers. Being the fifth contribution to the psychological problem of Universal Mental Measurement. First contribution, "Its Philosophy," October 22, 1915, ten papers; second contribution, "The New Basis," February 25, 1916, ten papers; third contribution, "Binet," October 6, 1916, ten papers; fourth contribution, "Needs, "November 3, 1916, ten papers. By Walter B. Swift, M. D., in charge at the Voice Clinic, Boston State Hospital, Psychopathic Department, 74 Fenwood Road, Brookline, Mass. At 7 p. m., November 27, 1916.

Technique for the Medical System of Mental Tests. Introduction: The Forty Previous Papers Summarized. 1. Final Chart for Mental Measurements; 2. Historical Aspect of the Mental Chart (Case); 3. Nerve Basis of the Chart (Case); 4. Psychological Phases of the Examination (Case); 5. A Mental Case Charted; 6. A Case of Feeble-mindedness Portrayed; 7. Description of a Mild Moron; 8. Cases Showing Excessive Local Function; 9. A Case Lacking Musical Functions; 10. General Directions for Using the Mental Chart.

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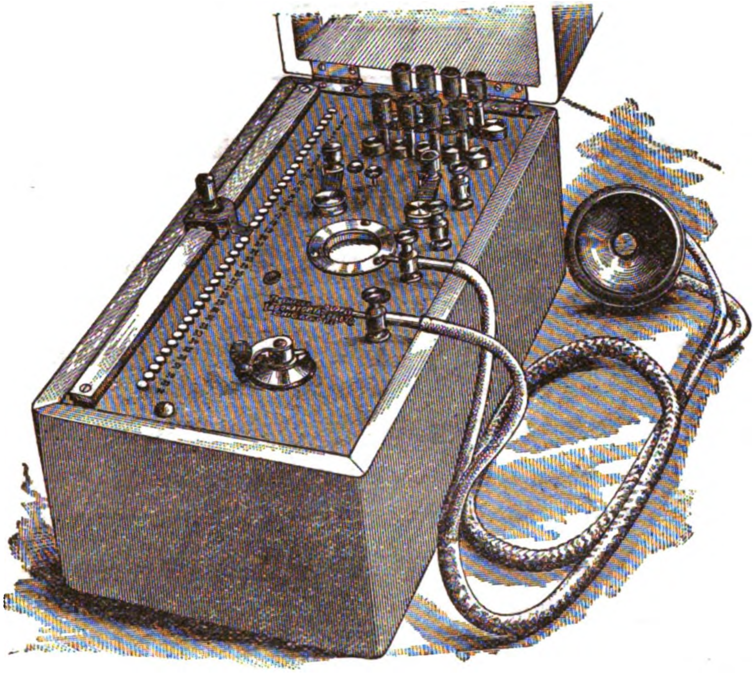

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Educational Administration and Supervision

ANNOUNCEMENTS

Among the forthcoming articles will be the following

The Administration of Supervised Study. Principal P. E. Belting, Oskaloosa, Iowa.

A Study of Students Dropped, Failed and Promoted in High School Subjects. Janet R. Rankin, School Service Secretary, Department of Public Instruction, Madison, Wisconsin.

The Reorganization of English in the Secondary Schools. Professor James F. Hosic, Chicago Normal College, Chicago.

Relation of Progress of Pupils to Actual Attendance in Elementary Schools of St. Louis. Principal W. J. Stevens, Field School, St. Louis.

High School Failures. Superintendent Don. C. Bliss, Montclair, New Jersey.

Research Work in Arithmetic. S. A. Courtis, Supervisor of Research, Detroit, Michigan.

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